

3838

FRANCO-GERMAN. FACTORS OF POWER

COMPARATIVE STUDIES
OF THE PROBLEM OF DISARMAMENT

PART I.

POTENTIELS DE ^{War}**GUERRE**
60 DIAGRAMMES

PART II.

POTENTIELS DE ^{Peace}**PAIX**
50 DIAGRAMMES, 3 PLATES

BY HANS ROHDE, MAJOR



BERLINER BÖRSEN-ZEITUNG
PRINTERS AND PUBLISHERS
BERLIN W 8
1932

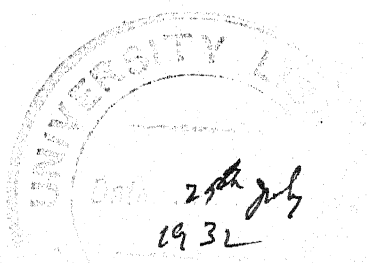
51005



France and Germany — their Ratio of Power („Potentiels de Guerre”)

**A Comparative Study
of the Problem of Disarmament
by**

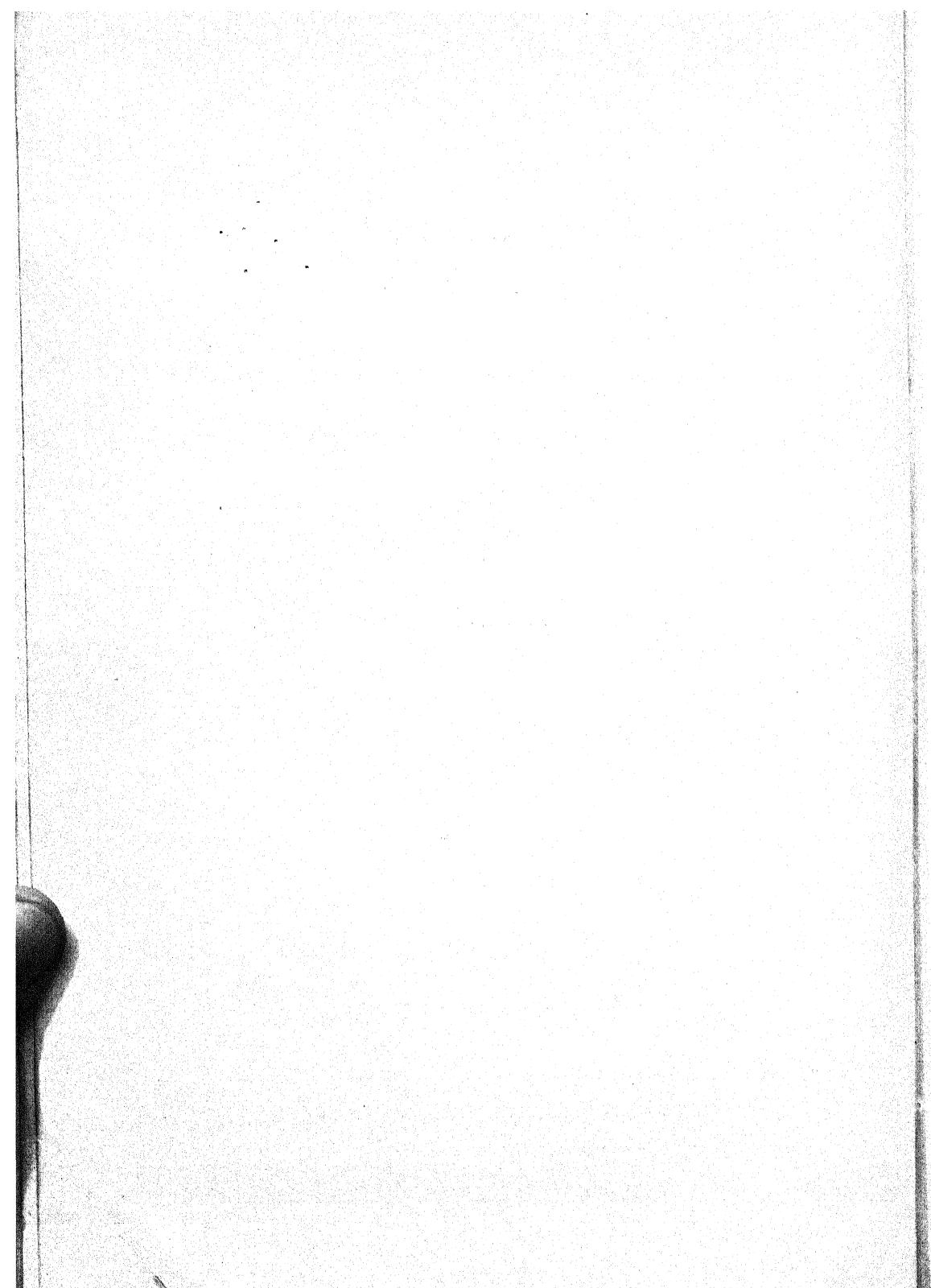
Hans Rohde, Major



With 60 Diagrammes

**Printers and Publishers: Berliner Börsen-Zeitung
Copyright, Berliner Börsen-Zeitung**

1932



Contents

Introduction:

Theory and meaning of „potentiel de guerre“	1
I. Geographic situation and boundaries	5
II. Extent, shape, location, and topography	13
III. System of alliances, chances for alliances	21
IV. Colonies	27
V. Population and military power	35
VI. Economic conditions	40
VII. Industries	50
VIII. Transportation	56
IX. Merchant marine and civil aviation	65
X. Finances	70
XI. Social structure	78
XII. Political structure	83
XIII. National character	90

Conclusion:

The consequences	100
----------------------------	-----

List of diagrammes

	page
1. Peripheric location of France central location of Germany	7
2. Germany's unfavourable frontiers	9
3. France's favourable frontiers	9
4. Borderlines, maritime and inland, in Germany and France	11
5. East Prussia's surplus feeds 3 million people in the Reich	12
6. East Prussia's quotient as an exclave	12
7. Area, shape, and location of Germany and France	14
8. Topography of Germany and France	16
9. Southeastern France as a natural fortress	18
10. Northeastern France as a natural fortress	19
11. The French system of alliances in Europe	22
12. Its military effect upon Germany	23
13. The enormous military superiority of France	25
14. The French Colonial Empire	28
15. The military value of her colonies for France	29
16. Trans-Sahara-Railway and other French railway constructions in North Africa	30
17. The economic value of French Africa	31
18. Value of French colonies: favourable geographic conditions for transportation and naval strategy	33
19. Population and strength of army	36
20. Development of populations of France, of her colonies, and of her allies, as compared to Germany	37
21. Will Germany remain a 60 million people?	39
22. Development of birth rate in Germany	39
23. Agricultural population in France and Germany	42
24. Utilisation of waterpower in France and Germany	43
25. Utilisation of soil in France and Germany	44
26. Essential foodstuffs Germany must import	44
27. Treaty of Versailles: first account of losses	45
28. Situation of main areas of production in Germany and France	48
29. The menace to Germany by the air forces of France and her allies	49
30. Armament industries of France and her allies, as compared to Germany	53
31. The railway systems of Germany and France	57
32. Restrictions of railway construction along the Rhine	58
33. Number of motor vehicles and transportation airplanes in Germany and France	59
34. The French system of inland waterways	60
35. The German system of inland waterways	62
36. Construction of strategic railways in France and Belgium	63
37. Development of the Polish railway system along the German frontier	64
38. Navies and merchant marines in France and Germany	66
39. The French air force and German civil aviation; expenditures of each within the last four years	67
40. Distribution of gold supply in the world, September, 1931	70
41. French capital market	72
42. French loans, 1919-1932	72
43. France, country richest in gold	74
44. Whither gold and money flow	76
45. Once creditor, now debtor	76
46. Germany's balance of indebtedness	76
47. Germany's reparation payments	77
48. Germany's payments of interests to foreign countries, 1920 to 1929	77
49. Social structure of Germany and France	79
50. City and country in Germany and France	80
51. Unemployment in the world	81
52. Unemployment in Germany	82
53. The German Federation of States	84
54. The French centralized State	84
55. Aspect of political conditions in Germany, 1860	86
56. France's stabilized domestic condition; Germany's unstable domestic condition	88
57. Who has most years of warfare?	91
58. French invasions of Germany, Italy, and Spain	93
59. France's territorial expansion since 1830	96
60. France's policy of conquest against Germany in the course of centuries	97

Introduction

„Potentiel de guerre“, theory and meaning

By „potentiel de guerre“ we understand the sum total of factors which, in the course of a war, are apt to influence in some way the military power of a country; which influence, however, cannot be numerically defined or, even approximately, be estimated. Such factors are, first of all, the geographic situation and the nature of boundaries of a given country, its extent, form, location, and conditions of soil; its actual and potential alliances; its system of economics, finance, and transportation; its social and political structure, and the character of its inhabitants. The factors mentioned have for their counterpart the so-called actual factors, the directly military preparations of a country as existing in peace time and immediately available in case of war, and, correspondingly subject to estimation. They are: army, navy, and air force, with their stocks of war material; the trained reserves and the stores of war material kept ready for them in peace time; fortifications, inland and on the sea coast; finally, system and organisation of mobilisation. In contrast to „potentiel de guerre“, the latter factors are designated as „potentiel de paix“ — potentials of peace.

Such is the purely theoretical meaning of „potentiel de guerre“. But there is another meaning besides. It is characteristic of the French thesis of disarmament that, for estimating the military power of a country, a far greater value is ascribed to the „potentiel de guerre“ than to the actual factors. In this connection France holds the opinion that countries inferior to others with regard to the potential factors, can equalize that deficiency only by a strong armament in peace and by a military organisation for war prepared to the last detail in peace time; in other words, by a strong „potentiel de paix“ with the corresponding right to use it.

That thesis, of course, is absolutely erroneous, for it is not solely the existence of a strong „potentiel de guerre“ that decides, but

the possibility of developing it and of making it effective. This possibility, however, depends upon the length of time available to a given country in case of war. It furthermore depends upon the degree of completeness of the „*potentiel de guerre*“ and its several factors, or upon the possibility of finding compensations for deficiencies elsewhere, finally, last not least, upon an undisturbed development and protection of the „*potentiel de guerre*“. If any of those three conditions be lacking, the entire value of the „*potentiel de guerre*“ may be jeopardized from the very beginning. For instance, what does a large number of inhabitants amount to, if the able-bodied are not militarily trained, and if, in case of war, there is no time to train them? Of what use is a large supply of coal and the greatest steel industry to a country poor in iron ore and seriously handicapped in getting its supply from the outside? Of what use is the most progressive and most highly developed peace industry, when its plants and factories are destroyed by enemy air attacks, before they could even be thought of for being changed for the production of war material?

These are but a few examples to prove the untenableness of the French thesis. The military power of a country is not determined by forces and possibilities inherent in its population, conditionally available for war purposes. On the contrary, what counts are the factors actually prepared for war in peace time and, consequently, immediately available for warfare: in other words, the „*potentiel de paix*“, not the „*potentiel de guerre*“. If a country is weak in the former, even the strongest „*potentiel de guerre*“ does not help it in the least.

The war may be decided long before the „*potentiel de guerre*“ can be made effective. There may even be cases where a theoretically existing strong „*potentiel de guerre*“, or individual factors theoretically belonging to that category, just because of their strength, not only fail to help, but positively hurt a country. Think, e. g., of countries with large populations whose food supply is not completely, or not approximately, safeguarded in case of war; or of countries whose principal areas of production, close to the borderline, are exposed to quick seizure by the enemy, because, missing an adequate peace armament, they cannot be protected from such seizure in war.

However that may be, there is certainly no doubt but that a country with a big „*potentiel de guerre*“ and a weak „*potentiel de paix*“ is, under any circumstances, inferior to a country with a small

„potentiel de guerre“ but a strong „potentiel de paix“. If proof had been wanting, our very present is irrefutably furnishing it. China, a nation of 400 millions, failing to possess an army in the European sense, is defenceless against Japan which counts only 70 millions. Only a small fraction of Japan's peace armament sufficed to take firmly in hand, within a few weeks, all of Manchuria, a country more than twice as large as pre-war Germany, and, at the same time, to strike further blows at other places of China's giant empire. Russia, too, in 1904/05, was inferior to Japan in war, because she was not in the position to utilize fully, against Japan in Eastern Asia, her strong „potentiel de guerre“ in itself actually existing.

The „potentiel de guerre“, consequently, may supplement and increase the „potentiel de paix“ in case of war, but it never can be considered of equal value. Besides, as has been said, the former can hardly be defined correctly, while the latter, being visible, is accurately measurable. Furthermore, the „potentiel de guerre“ of a country may have different effects according to the nature of the opponent. Territorial contact, or separation and distance from one another, of the countries in question; location of the seat of war and conditions of transportation; a prevailingly continental or prevailingly maritime character of the belligerents, are problems of very considerable importance. Russia, e. g., was able to use her „potentiel de guerre“ in the world war against Germany much more effectively than ten years before against Japan. Once more, then, be it emphasized that the „potentiel de guerre“ alone cannot be regarded as decisive, or even as an approximately safe criterion, in judging the war power of a country.

All that is, of course, known in France, too. If the French, nonetheless, hold to the opposite point of view, attempting to make the „potentiel de guerre“ a central problem of disarmament, their reason for doing so is perfectly clear. France wishes to ascribe to Germany as great a „potentiel de guerre“ as possible so as to be able to justify, with reference to it, the maintenance of her own excessively strong military preparedness. It is her intention to have especially her trained reserves and the war material kept ready for them, excluded from a possible reduction of armaments. In this way she could escape from her obligation as stipulated by the Treaty of Versailles, viz., to proceed with her own disarmament, after Germany has lead the way to such disarmament.

To oppose that French aim was the purpose of a series of articles I published in the Berlin Börsen Zeitung during the last few

months, under the title „Factors of Power“, comparing the „potentiel de guerre“ of Germany and France. The present booklet is a collection of those articles, in part greatly enlarged, with numerous charts and graphic illustrations. A comparison of the several factors of the „potentiel de guerre“ of each country, is to demonstrate once more, as concretely as possible, how unreasonable the French thesis of the „potentiel de guerre“ is in itself. On the other hand, even should the thesis be adopted, France has not the slightest right to demand for herself a peace armament stronger than that of Germany, whereas Germany has good reason to insist that France fulfil her obligation of disarming as provided for by the Treaty of Versailles.

I.

Geographic situation and boundaries

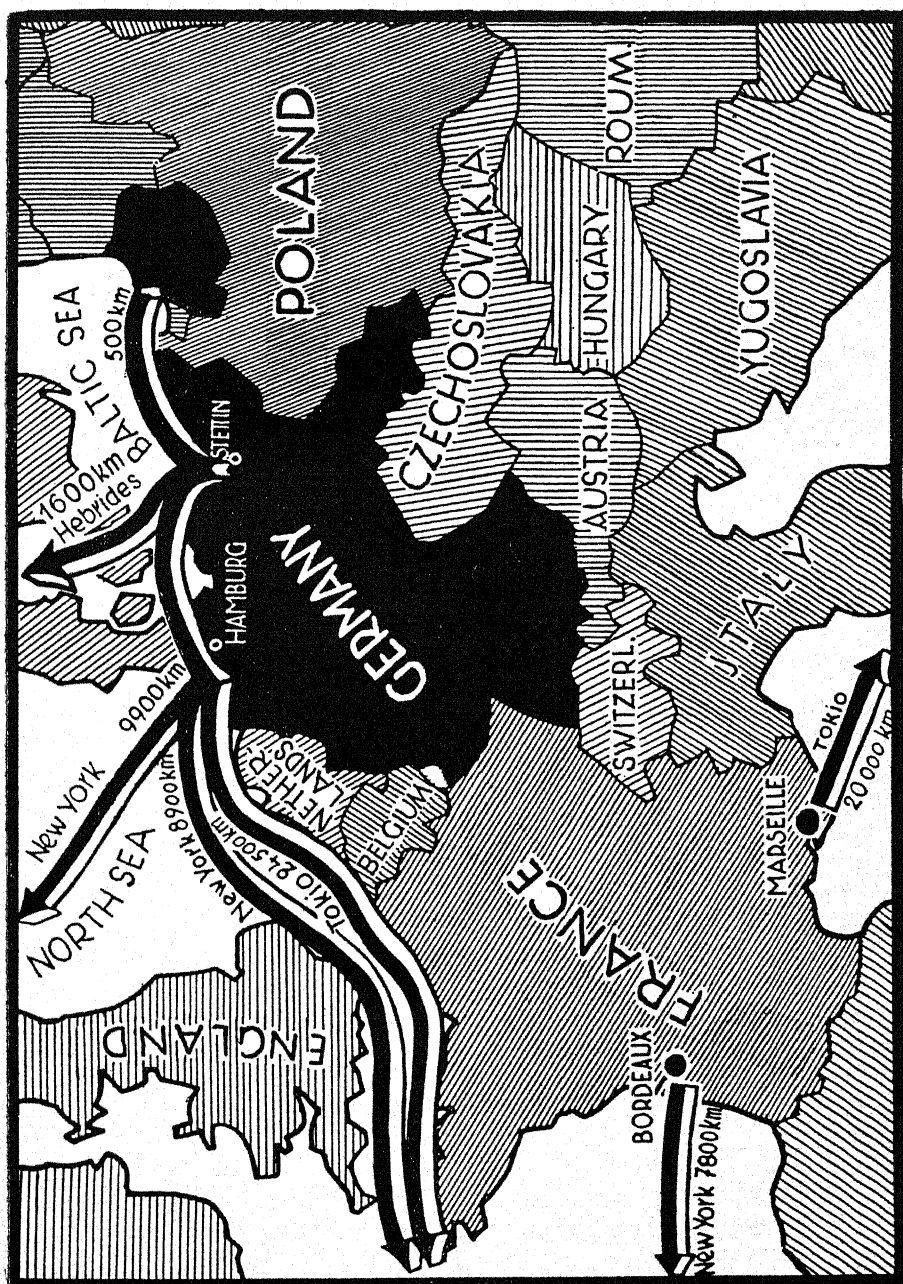
Within the framework of Europe, France possesses a distinctly marginal position. It is a country peripherically located, a sharply outlined geographic unit, bordering seas on several sides, having at the same time relatively few direct neighbours on land. France has only six direct neighbours in all, Spain in the south, Italy and Switzerland in the southeast, Germany in the east, and, finally, Luxemburg and Belgium in the northeast. Among those neighbours neutral Switzerland, small Luxemburg, also neutral, and Belgium, most closely allied to France, can hardly be considered potential enemies of France in case of armed conflicts. France is separated from Italy and Spain by high mountain ranges difficult to traverse and relatively easy to defend, the passes for the most part being in French hands or at least under French control. Even if Italy or Spain should succeed in crossing them, that alone would hardly prove decisive in war. A natural barrier so sharply defined is missing only in the east and northeast, opposite Germany. The lack of it, however, is more than amply equalized, first, by demilitarizing the entire western border section of Germany as far as a line 50 km east of the Rhine, second (provided „frontier“ is taken for what it geographically is in fact, a territorial not a linear concept), by a series of more or less sharply defined obstructive terrains. These proved to be such repeatedly in history, as lately demonstrated again by the battles in the Vosges and Argonne sectors during the war.

Thus France is a country of natural boundaries such as there are few other countries in Europe. It is a grand natural fortress easily defended against the outside and no less easily traversed within. Except for insular countries, there is hardly a country anywhere in the world as generously equipped by nature with strong bulwarks against the attacks of continental neighbours, as is France. In addition, there are considerable advantages of a military-geographic kind: an extraordinarily favourable longitudinal ratio of territorial and maritime boundaries. As regards the former, their nature is as favourable as their delineation. The territorial and maritime boundaries of France balance with a total length of 2774

and 2850 km respectively, the latter even exceeding the former (harder to defend) by about 76 km. The territorial boundaries are everywhere of a linear regularity nothing short of ideal from the point of view of national defence, with the exception of a small indenture on the Upper Rhine which, considering modern conditions, cannot be called strategically unfavourable.

All those geographic facts have always been essential in giving France her powerful position in Europe and in the world. Her peripheric location, the character of a large part of her territorial boundaries, and the length of her maritime boundaries, together with the small number of direct neighbours, afford France protection in the rear and on the flanks politically and militarily of the greatest value. At the same time the quotient of geographic pressure is very low as compared to France's territorial extent, for the reason that the small number of direct neighbours combines with the long sea frontage. Thus France is most effectively protected from the danger of foreign coalitions or even political isolation. On the contrary, France is in the position to turn such danger against her principal neighbours, Germany and Italy, by means of alliances with their respective neighbours. France can keep her resources together and bring her concentrated power to bear in one direction. Owing to her multiple maritime location — long sea frontages and geographic conditions favourable to establishing naval stations — France is to a high degree assured of a free access to the ocean as well as to two much frequented minor seas, the Mediterranean and the North Sea. France, therefore, enjoying a position of worldwide importance in the truest sense of the word, is enabled to interfere with nearly all developments in world politics, making the planetary forces, effective there, largely subservient to her own continental power.

Of all the Great Powers of Europe France, consequently, possesses without doubt the most favourable location from the point of view of military and political geography, disregarding Russia which is prevaillingly Eurasiatic. Her location has another advantage that cannot be estimated too highly: it is France's natural, almost territorial, connection with her enormous **colonial empire in Africa**. This connection makes of that colonial empire a really organic element of France herself. It gives her general position a concentration and compactness of such perfection as is not equalled anywhere else. It enables France to utilize the enormous powers, inherent in her African empire, for the protection and defence of the mother country much more effectively than can be done by England, e. g., with a colonial



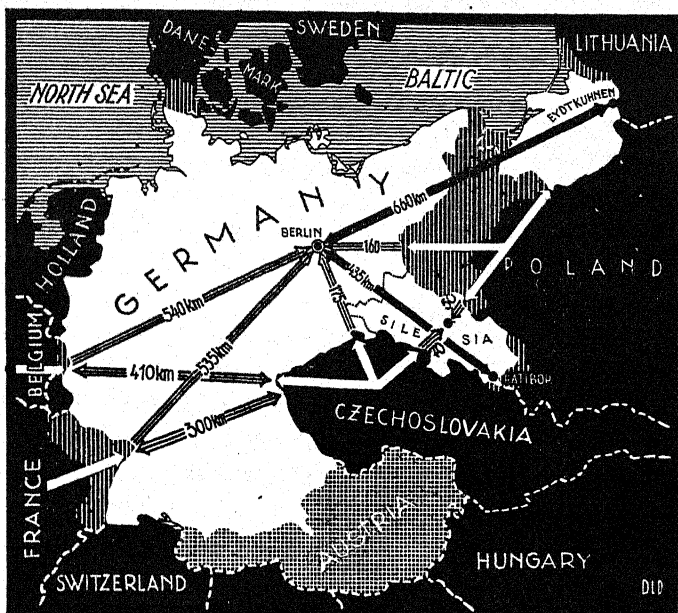
Peripheric location of France, central location of Germany

empire much larger but far distant and widely scattered. France can, in particular, transport strong contingents of colored troops from Africa to the mother country, any time. Thereby a point of weakness in her national defence is more than sufficiently compensated, viz., France's numerically low status of population which, on the other hand, is one of the principal causes of her material prosperity.

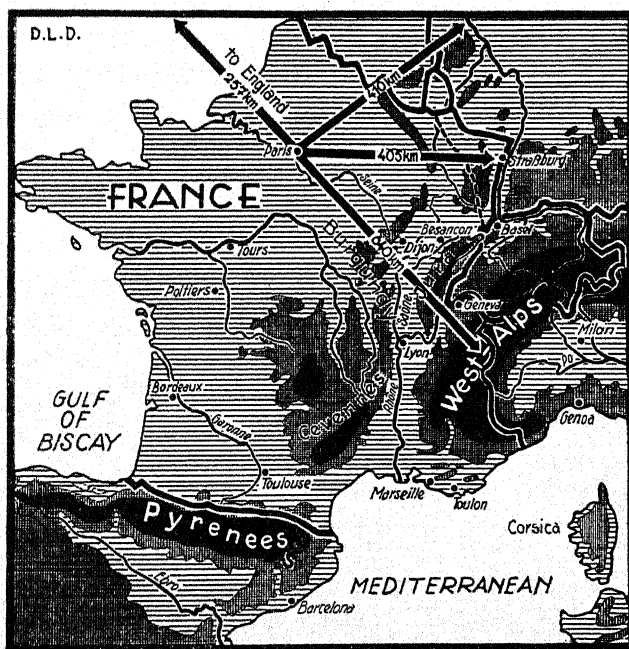
Geographic conditions alone, therefore, guarantee to France a maximum of political security. In this respect conditions are essentially different for Germany. Her boundaries and geographic situation are in every way the very opposite of those of France.

Germany is the only great European country with a pronounced central location. In contrast to France, it is a country without protection for rear or flanks; a country without natural boundaries, at the same time richest in neighbours, of all countries of Europe, nay, even of the whole world. As regards the number of immediate neighbours, Germany is surpassed today only by the Eurasian giant-empire of Russia. On the other hand, her quotient of geographic pressure, i. e., the ratio of her population to the sum total of populations of her immediate neighbours, is at present lower than that of France. It sank, compared to the last few years before the war, from 1 : 4.4 to 1 : 1.8 after the war. In view of present conditions that decrease can hardly be considered an advantage for Germany. It was caused by the dismemberment of old Austro-Hungary and by the separation of Germany from her former neighbour Russia. It is counterbalanced by the weakening of political power in consequence of those two factors, and by the resulting increase in the number of immediate neighbours as compared to pre-war times. Including the Free City of Danzig the number of neighbours has grown from seven to ten.

Germany's geographic situation, compared to France, is consequently the most unfavourable that can be imagined. It is the worst and weakest situation of all Great Powers in the world. How serious it is, was very strikingly expressed by Hermann Stegemann in his book „The Mirage of Versailles“ (Deutsche Verlagsanstalt, Stuttgart): „Peripherically located powers, thanks to their marginal position, maintain a geographic superiority over centrally located powers menaced by isolation and constantly in danger of being used for the passage of armies or for seats of war.“ These words, written with reference to the geographic situation of France and Germany, need no further explanation. History, the fate of Germany, past and



Germany's unfavourable frontiers



France's favourable frontiers

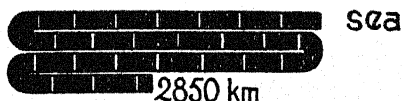
present, give evidence of their correctness. It was nearly always the peripherically located power that from the very beginning enjoyed an advantage in armed conflicts over the centrally located power. It was nearly always Germany, the heart of Europe, through which armies marched or where wars were waged, unless she succeeded, favoured by a concentration of forces or by special circumstances, in holding her enemies at bay at her frontiers. **Again, as before, Germany suffers from the pressure of political envelopment.** Of her ten neighbours there are four, militarily the strongest powers, France, Belgium, Poland, and Czechoslovakia, allied against Germany, either directly, or indirectly by mutual agreement.

Germany's geographic situation thus characterized is made still more unfavourable by an extremely **disadvantageous maritime** location. True enough, Germany possesses two sea frontages. But these are, in the first place, very narrow. Worse than that, they do not touch upon the ocean but only upon two minor seas. **Germany has no really free access to an ocean.** The route there is long. It passes the coasts of England and France and can easily be blocked by either power, any time. Germany's geographic situation is, consequently, not only of a central, but of a distinctly inland character. The results are these that Germany has far fewer possibilities than France of influencing developments in world politics; and that Germany, in addition to the pressure of isolation on the continent, faces the danger of a blockade of her sea fronts. The world war has shown what a blockade means for national defence. No less unfavourable are the boundary lines of Germany as compared to those of France, especially so the proportion of territorial to maritime frontiers and the character of the inland boundaries.

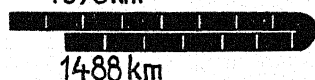
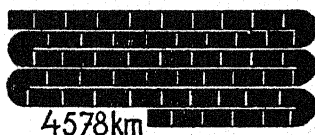
Whereas the German frontiers have a total length of 6066 km, the French frontiers have only 5624 km. Of Germany's total there are only 1488 km of maritime frontiers. Consequently, it is not only the total of boundaries but the territorial boundaries in Germany that exceed the French boundaries in length. Germany's maritime frontiers are scarcely half as long as those of France. Still more important is the point that the French territorial boundaries are either protected by nature, as explained above, or by strong fortifications and by the demilitarisation of the adjoining German country. **The German frontiers, on the other hand, lack such protection almost completely.** Their course is cut up in a way absolutely unique in the whole world: by strong curvatures along the Rhine, in the southeast and east, and, particularly by the separation of East

Length of boundaries

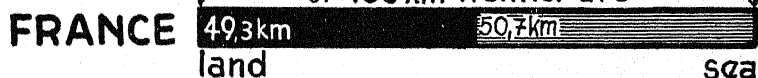
FRANCE



GERMANY



proportion of territorial & maritime borders of 100 km frontier are



Chief Military fronts

territorial boundaries between

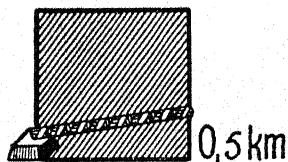
GERMANY ITALY



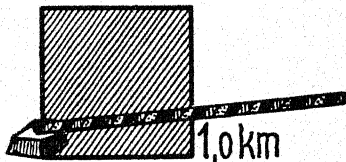
FR. BELG. CZECH. POLAND (incl. East Prussia)



to 10 km land boundaries



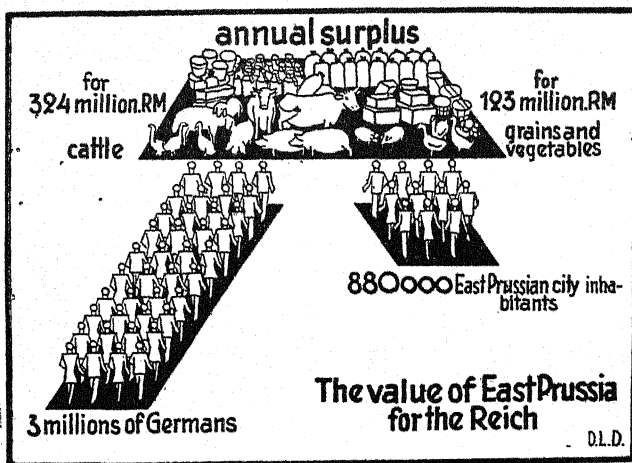
FRANCE



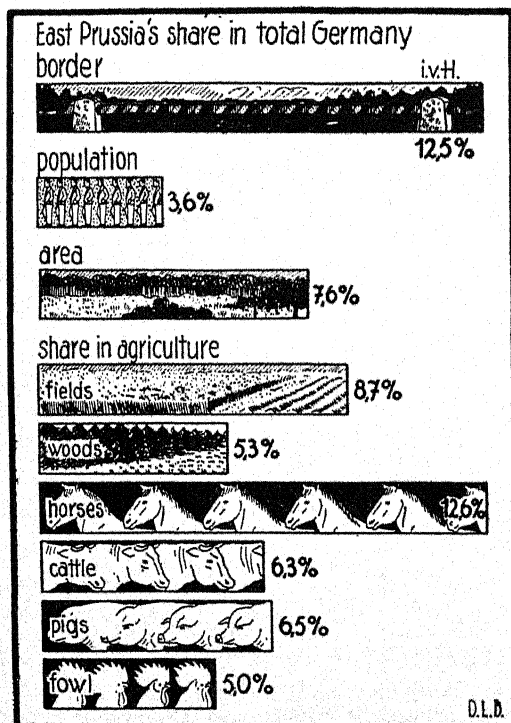
GERMANY

D.L.D.

Borderlines, maritime and inland, in Germany and France



East Prussia's surplus feeds 3 million people in the Reich



East Prussia's quotient as an exclave

Prussia from the Reich in consequence of the Polish Corridor. Southern Germany and Silesia may be squeezed by tongs from two sides. East Prussia, severed from the Reich, has actually become an island in the middle of foreign territory. Only at one place does Germany possess a natural protection by alpine high mountains: exactly where such protection is needed least, opposite neutral Switzerland and kindred Austria.

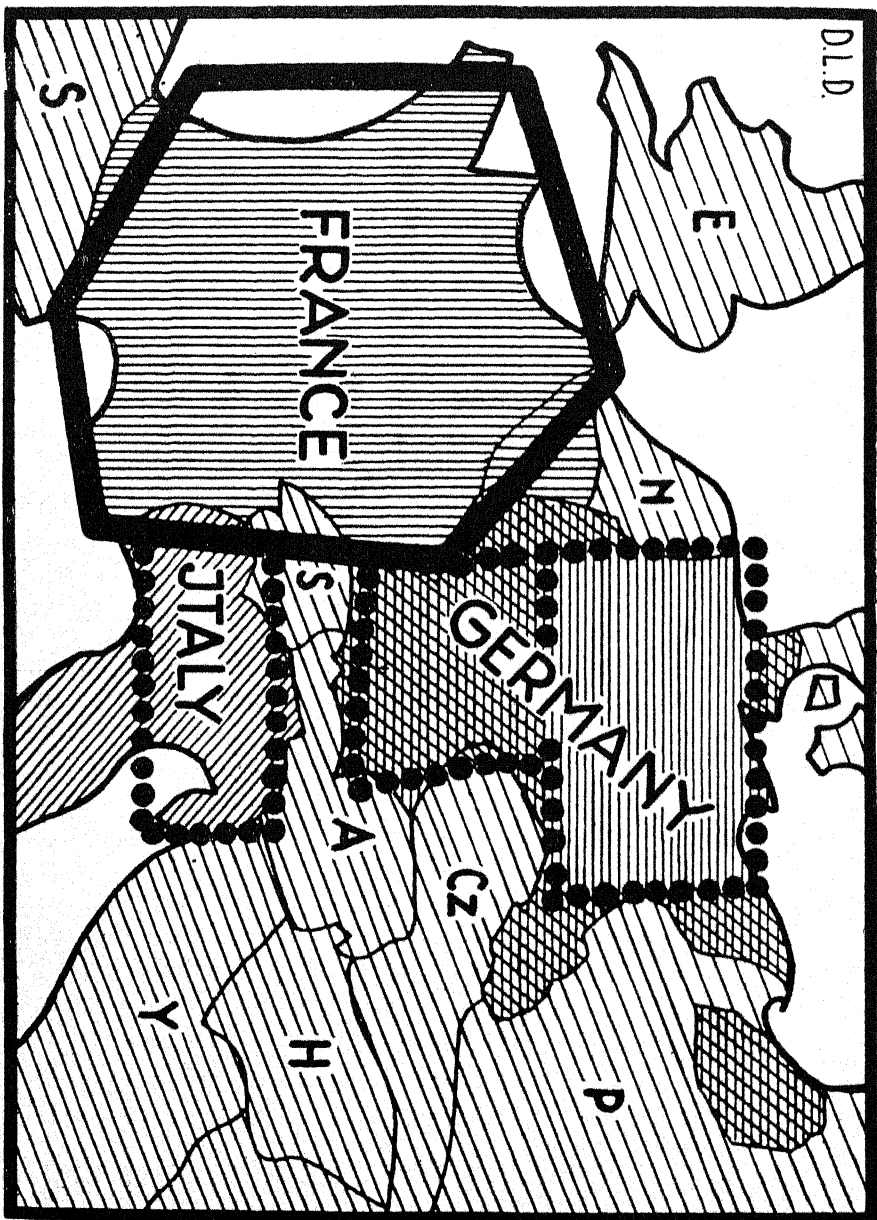
At all other places the German territorial boundaries are lying more or less open — easy to attack and to violate, therefore hard to defend. Where they are less so, as in the hilly country west and southeast, they are either demilitarized on a broad front along their entire course, as in the Rhineland, or especially strongly curved, as opposite Czechoslovakia. The fatal effects of such frontier conditions in war were demonstrated by the World War, with a clarity amounting to a natural law, in the case of East Prussia, Poland, Valachia, and Venetia. Another factor of military-geographic weakness for Germany must be added to the foregoing. It is **the menace to the capital of the German Reich** which, compared to former times, was immensely increased by the loss of the province of Posen, by the change of political conditions at Germany's southeastern boundary, and by the development of military aviation. Berlin, by beeline, lies hardly 175 km from the Czechish and only 160 km (formerly 300 km) from the eastern (Polish) border, consequently near enough both frontiers to cause anxiety in more than one respect. We must realize that in a future war distances of 160 and 175 km respectively, will not cut a great figure, neither for air forces, nor for land forces, in view of the progressing motorisation of modern armies. How much more favourable, compared to all that, is the location of Paris! Its shortest distance from the east border of the demilitarized zone on the Rhine is at least 500 km, beeline.

All things considered, geographic conditions and boundaries produce a situation militarily favourable for France in every regard, while absolutely unfavourable for Germany.

II.

Extent, shape, location, and topography

Including isolated East Prussia, Germany has an area of 472 000 sq.km; France has an area of 550 000 sq.km. France is therefore 78 900 sq.km. larger than Germany, but, in contrast to Germany, at the same time a connected, compact, bulk of land. Her shape is



Area, shape, and location of Germany and France

a hexagon, nay even almost a square; the shape of Germany, in her main part, a longish, narrow quadrangle. This quadrangle comprises all of Northern Germany, the western part of which is joined in the south by square-shaped Southern Germany. The defensibility of a country, provided there is enough man power available, as is the case with France, generally grows with its size, while it decreases in case of a shape as that of Germany in contrast to the bulky, massive shape of France. As stated before, France, in contrast to Germany, enjoys an extremely favourable ratio of territorial and maritime boundaries as well as of boundaries and area. Considering all that, it is clear that France in that respect, too, has a military advantage as over against Germany. This advantage appears still more evident, if the reciprocal location of both countries is compared in connection with their shapes.

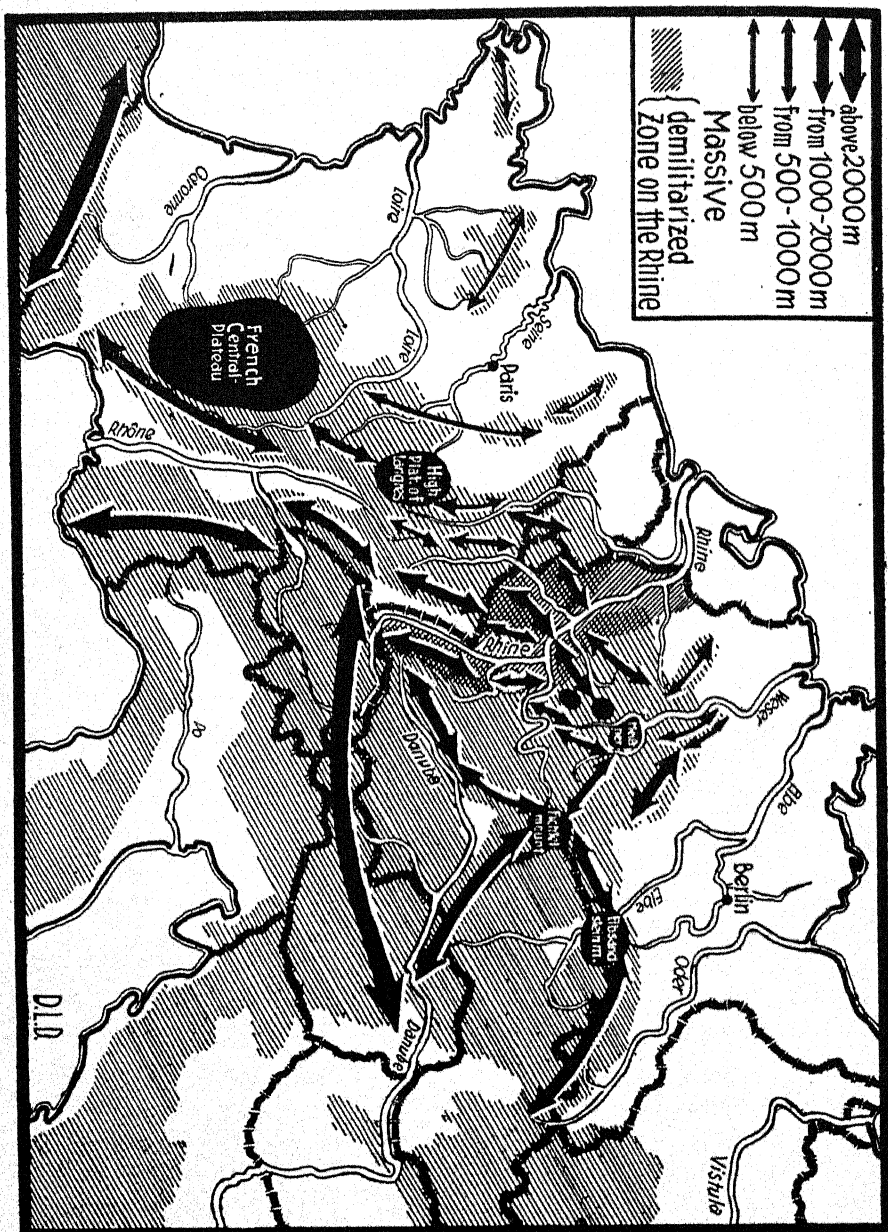
Such a comparison shows that Germany, with the largest part of her western frontier, borders upon France and her close ally Belgium, while the France-Belgian front opposite Germany amounts to scarcely one half of the French east border. A Franco-Belgian attack, consequently, hits German territory in its entire width at once, while a German attack hits only the centre of French territory. A German attack intended to affect Northern and Southern France, too, i. e., the whole of French territory, would involve considerable changes of front. A French attack against Germany need not change its initial point of advance but may be carried ahead in a straight line as far as the eastern boundary of Germany.

Similarly favourable for France or unfavourable for Germany, are conditions at the other military fronts of either country, at the Italian front for France, at the Polish-Czechish front for Germany. If the Italians succeeded at all in crossing the Alps, only a fraction of French territory at its eastern frontier would be affected, whereas a Polish-Czechish invasion would not only hit Eastern and Central Germany but a large part of Southern Germany.

The defensibility of France, then, is essentially higher than that of Germany, thanks to France's geographic position and to the natural strength of her immediate boundaries, as well as to **her area, shape, and location**. Besides, the terrain of France is far more favourable for national defence, both along the frontiers and in the interior, than Germany's terrain.

In the west, east of the demilitarized zone, Germany actually possesses only one considerable and connected section of militarily appreciable value. It is the Weser River with the mountains and

Topography of Germany and France

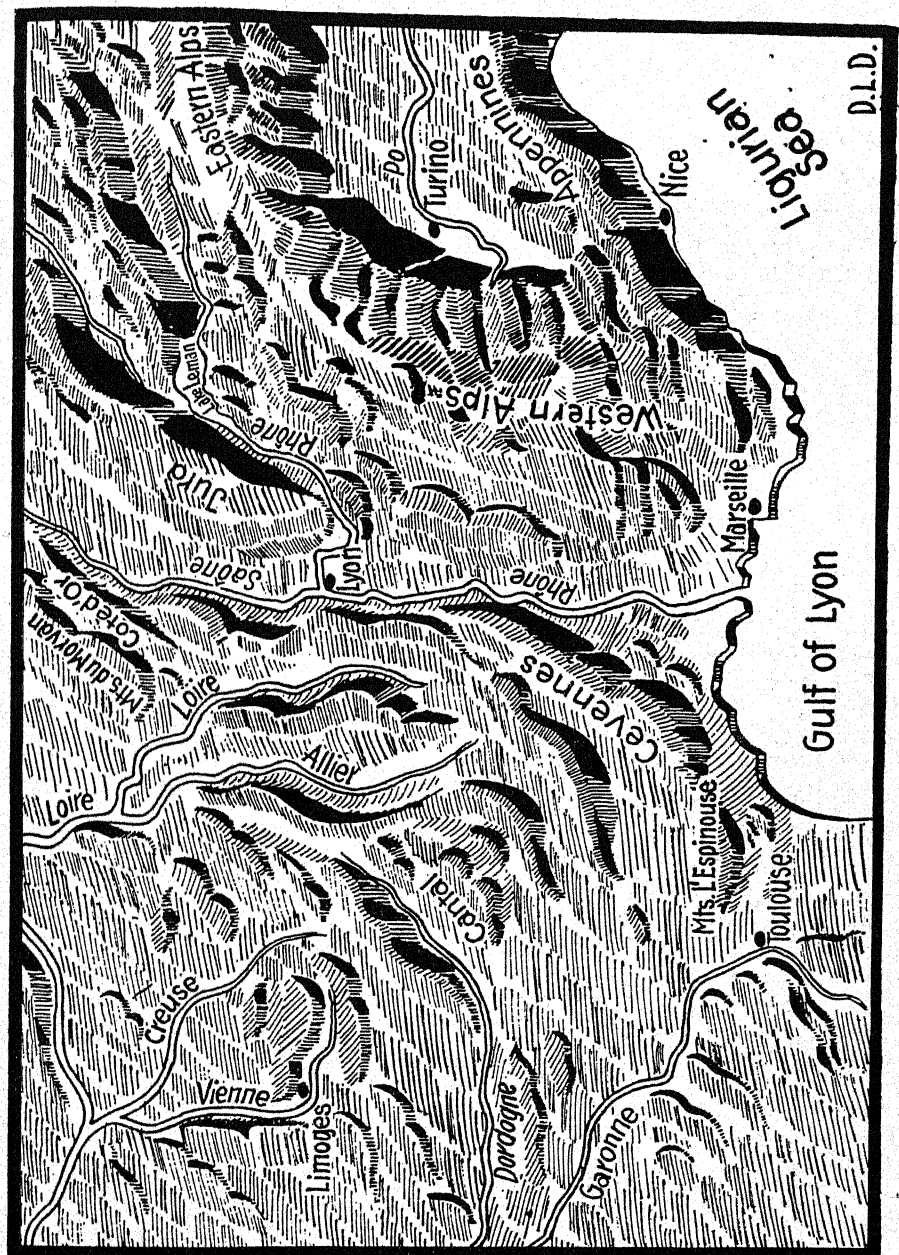


hilly country that extend from the Fichtel mountain range northwest as far as the Ems-Weser district. Elevations and rivers lying between them and the demilitarized zone, almost without exception run parallel to the enemy's line of advance, or else may easily be circumvented. **The Weser district not only means the loss of large German territories and of the most important industries, it is also the last compact obstacle of considerable extent before the North German Plain**, an obstacle of very problematical value, withal. It has only an insignificant extent in depth. In the north and south it lacks a sufficient protection of the flanks. The individual mountain ranges and chains of hills, except for the Thuringian Forest, are only of a moderate height and, what is more important, narrow so that they can be crossed in a short time. The Weser itself, as far as the mouth of the Aller, is on the average only from 50 to 70 m wide. Worse still, the whole section may be circumvented from Belgium in the north. In the south it may be conquered by France's ally, Czechoslovakia. Once conquered, enemy armies, advancing from the west, will find the door open, not only to the North German Plain, but also to the east of Germany. As to the topography there, we need hardly add anything to what has been said in our preceding chapter.

Topographic conditions behind the militarily important boundaries of France are quite different. **The demilitarisation of the German Rhineland enables France to make use of that district with its mountains and rivers for her own national defence in case of war.** She can, from the very beginning, carry the war into Germany, occupying positions along the Rhine which, hard to attack and to conquer, furnish to France a strong bulwark against Germany and, at the same time, open the way far into the interior of Germany. Besides, France possesses, thanks to the topography in the territory from the frontier to the French Plains, not only one but a whole series of natural lines of defence that follow one another in close succession. These sections are formed by the upper and central course of the Mosel, by the Maas and the upper courses of Marne and Aisne, as well as by a series of hill ranges nearly all of which run parallel to the boundary, thus protecting the French Plains from the boundary. Starting from there, it is the Vosges, the western parts of the far extended Rhenish Schiefergebirge (Slate Hills), the Monts Faucilles, or Sichelberge, and the Mosel Hills, the Plateau of Langres, the Maas Hills with the Côtes Lorraines, the Argonnes, the hills of the Champagne, and, in the north, the „Threshold“ of Artois.



Southeastern France as a natural fortress



Northeastern France as a natural fortress

D.I.D.

Except for the Vosges, all those hill ranges are indeed much lower than the average of the German hills, but their steep outside slopes, together with the river beds, make up a very useful military terrain. They are natural ramparts, supported, in the eastern parts, by elaborate artificial fortifications. Forming wide concentric arcs, they surround protectingly the whole northern part of the French Plains and their centre, the Ile de France, with the capital, Paris. Thus national defence is given the possibility of placing ever new obstructions in the way of an enemy army advancing in the direction of Paris. How decisive a part that terrain may play, history has shown more than once, particularly during the World War with its fighting in the Vosges, in Lorraine, in the Argonnes, and Champagne, along the Chemin des Dames, and in the Artois near Arras. **Moreover, that hilly country does not, as do the German Mittelgebirge, interfere seriously with traffic, while affording the strongest protection, from a military point of view.** This is the reason why France, except for her capital, Paris, does not show any concentrations of traffic in individual places, at all comparable to those in Germany, like Leipzig, Halle, Kassel, and Hannover. That, too, is an inestimable military advantage France owes to her topography, as over against Germany. Its military value will be appreciated, when we remember how great an attraction centres of traffic offer to air attacks.

So much for the interior topography of France from the point of view of national defence in the north and northeast. Better than words can describe it, a glance at a map will show the character (from a military point of view) of French topography in the south-east, near the military front second in importance, opposite Italy. There, close behind the Alps, nature has built for France a second rampart of protection, as strong as can be imagined: the Rhône River and the French Central Massive with its marginal hills, the Cevennes, steeply sloping down to the Rhône valley, and joining them north and south, the hill ranges of the Côte d'Or and the Monts de L'Espinouse. Even assuming that the impossible case had happened, *vz.*, that an enemy army had succeeded in crossing the Alps there: the Rhône and the Central Massive with its mountain ranges would categorically stop it from advancing farther into the interior of France. There, in the southeast, France has nothing whatever to fear. She may concentrate her full power and attention upon the defence of the north. In the southeast nature has provided for her

protection. Nevertheless, France increased that natural protection by strongly fortifying her Alpine frontier.

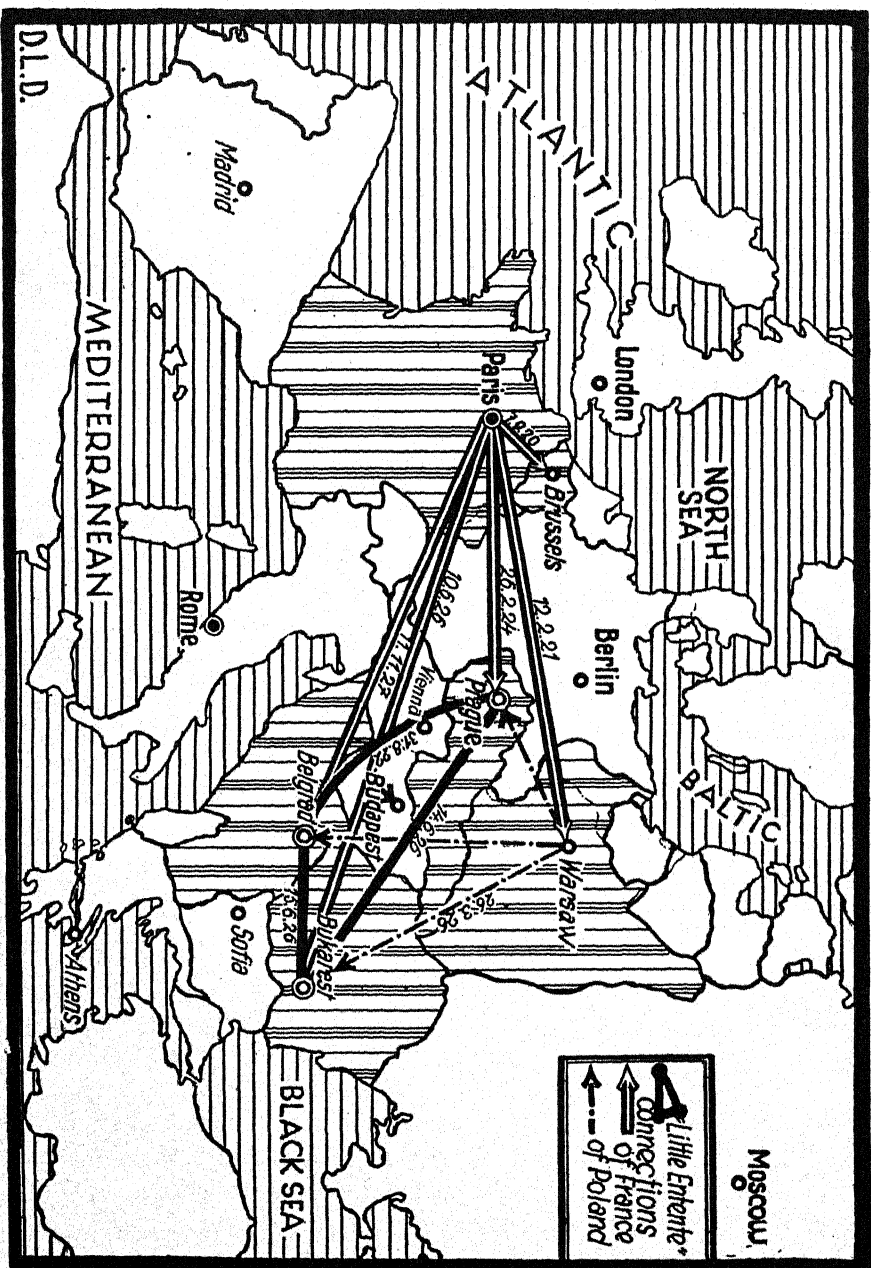
All things considered, France is far easier to defend than is Germany not only because of the favourable character of her natural boundaries, but also because of the terrain behind the boundaries being so favourable to national defence. History again furnishes the evidence. History knows of only one case, when German armies advanced as far as the vicinity of Orléans and Le Mans, but of several cases, when French armies marched far beyond Munich and the Weser, nay even as far as Germany's eastern frontiers, to Silesia and East Prussia. Furthermore, there is scarcely a case recorded, when nations and armies succeeded in crossing the Alps from the Italian side in the direction of the Rhône valley, but several cases, when French armies succeeded in doing so in the opposite direction.

III.

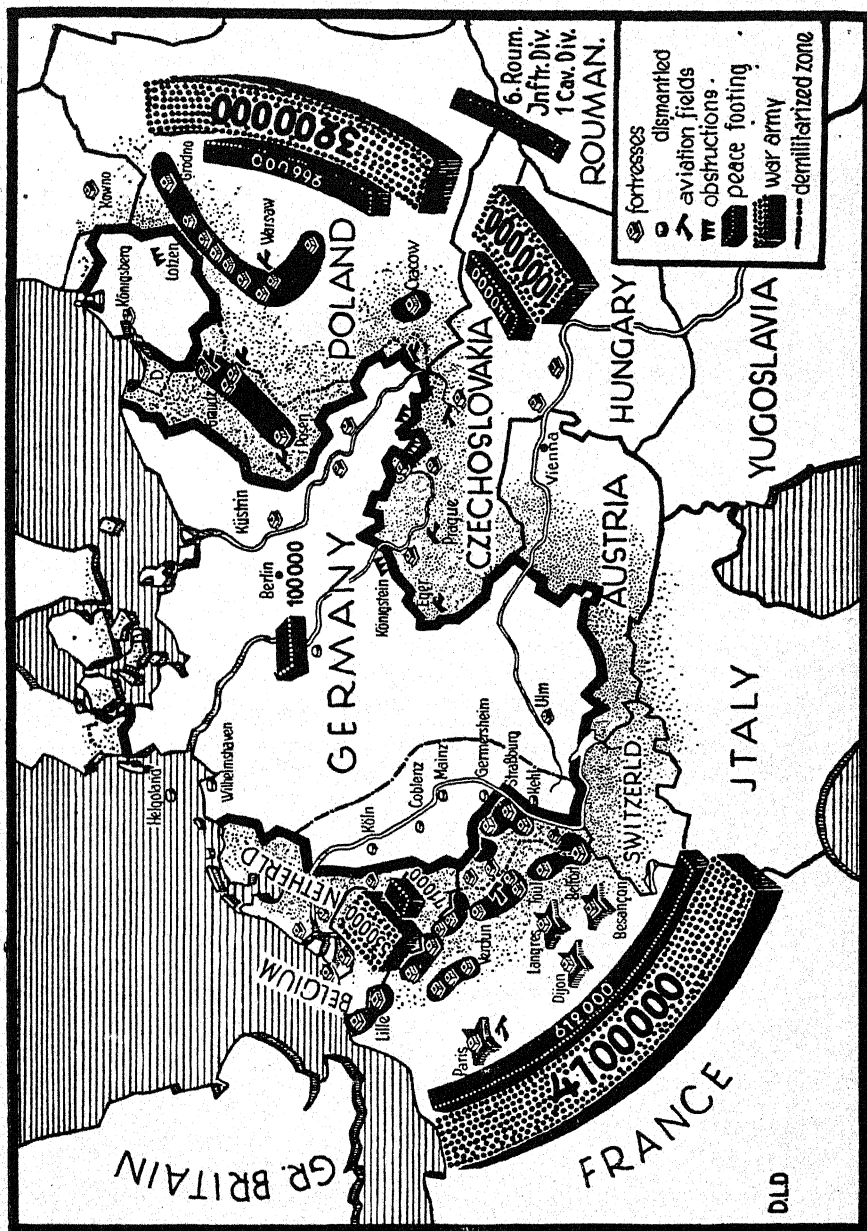
System of alliances, chances for alliances

To begin at once with a statement of fact: **Germany has no alliances of any kind, France, on the other hand, has a whole network of alliances.** France is directly allied to Belgium, Poland, Czechoslovakia, Roumania, and Yugoslavia. She furthermore has at her disposal another system of alliances, in eastern and southern Europe, whereby Czechoslovakia, Roumania, and Yugoslavia are connected with one another and, at the same time, each of them individually with Poland.

For the most part all of those alliances are secret. Only few of them the League of Nations was informed of. Most of them are not even known to the parliaments of the various countries. Most of them are, besides, provided with special military conventions. Of those alliance the following are, either exclusively or primarily, directed against Germany expressly: the Franco-Belgian, the Franco-Polish, the Franco-Czechish, the Franco-Roumanian, the Polish-Roumanian, and a Polish-Czechish military convention made on June 3d, 1922, provisionally valid until December 31st, 1925. The other alliances are at least indirectly planned against Germany. The public has been informed rather vaguely about the latter. As to the former, there is more accurate information, even though only with regard to their principal contents, through the medium of publications and disclosures by American, Dutch, Russian, and, to some extent, German newspapers. It is known that in the case of



The French system of alliances in Europe



Its military effect upon Germany

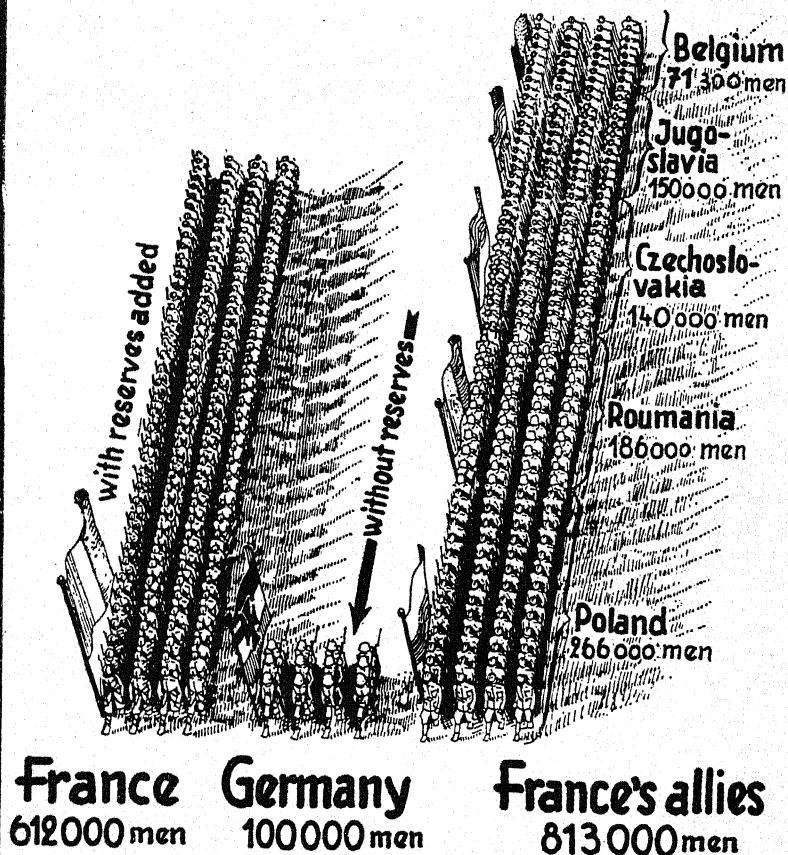
an armed conflict with Germany the countries, thus allied, are under obligation to support one another, in one form or another, according to plans agreed upon by their General Staffs. It is also known that those plans are periodically examined or revised, that in particular the Franco-Belgian and Franco-Polish alliances contain agreements as to a joint supreme command and a uniform conduct of operations. Moreover, the stipulations of the Franco-Czechish alliance — **in case of an immediately impending Austro-German Anschluss** — provide for the occupation by Czechish troops of Vienna, Linz, Salzburg, and the industrial centres near those cities; for the occupation by French troops of Klagenfurt and Graz. The Czechoslovakian government is furthermore obligated, together with the Polish government, to undertake jointly economic and military measures against Germany, in case the French government should declare peace in Central Europe endangered. Finally, it is known that the Franco-Roumanian alliance contains an obligation for Roumania, if France were attacked by Germany, at once to declare war upon the latter and her allies, to place six infantry divisions and one cavalry division at the disposal of France on Polish territory, and to have the rest of her army used according to the plans of the French General Staff.

So much for the actual state of French alliances. Its military significance will be made clear by the following considerations: **Belgium**, with a population of over eight millions, possesses an army, in peace, of six infantry divisions, two cavalry divisions, and a number of other units, i. e., more than 4000 officers and 71 300 men. In war, the numerical strength is at least 600 000 men, the trained reserves included. The sum total of able-bodied men may be estimated at about 1.2 millions including service behind the front, home service, and economic mobilisation.

Poland, with now a population of 32.5 millions, has, in peace, an army of 30 infantry divisions, 14 cavalry brigades, and three air units, to mention only the most important contingents, in all nearly 18 000 officers and about 266 000 men; in war, her army is at least 3.5 millions trained men.

Czechoslovakia, with a population of 14.7 millions, has an army, peace footing, of 12 infantry divisions, 3 cavalry brigades, and six aviation regiments, i. e., over 10 000 officers and, according to season, 140 000 or 100 000 men respectively. The number of reserves, subject to military service, kept on record, and controlled, is about 30 000 officers and 900 000 men.

The standing armies (in peace) of Germany, France,
and her allies
(without their trained reserves)



DLD

The enormous military superiority of France

Even if in the case of war the total military power of Poland and Czechoslovakia should not at once be available against Germany, the data given prove a **really gigantic military superiority over Germany which France owes to her system of alliances.** The same favourable conditions for France result from a study of the theoretical possibilities of France and Germany for making alliances. This is perhaps even more important, than facts now actually existing, for judging „potentiels de guerre“ of both countries in connection with potential alliances. For an accurate opinion we must refer once more to the geographic location of both countries, at the same time we must briefly consider various kinds of alliances and their respective values, differing from one another according to their politico-geographic foundations. In this regard we distinguish: 1) alliances of peripherically situated countries; 2) alliances with the neighbour of a neighbour; 3) alliances with adjoining countries; 4) alliances between countries one of which is centrally located, while the other is peripherically located. The former two kinds history so far has shown to be the most enduring and therefore most successful; the latter two kinds appeared less durable, consequently more unfavourable. The former was made more binding by common interest in an intermediate zone between the allies, large enough to overcome discrepancies, if not to do away with them altogether; the latter failed, because they did not possess such possibilities at all or only to a very limited degree, and were consequently exposed to all dangers of a policy of neighbourhood alliances.

Considering these points, we arrive at the following situation with regard to the possibilities of alliances in France and Germany:

Being a peripheric country, France possesses an extremely great ability of making alliances. She has not only a chance for alliances with adjoining countries or with the neighbour of a neighbour, but to a high degree for peripherically located alliances. Germany, however, because of her central position, does not possess the latter possibility at all, the other possibilities only to a very limited degree, for the reason that she was forced to cede, after the war, territories to the majority of her immediate neighbours, and for the other reason that three of the neighbours, the militarily strongest, are most closely allied to: France.

The history of the Triple Alliance proved most clearly, how limited a value may be attached to an alliance between a centrally located power like Germany and a peripherically located one. It has become evident that such an alliance subject to considerable

disturbances even in peacetime, while it easily breaks apart, when a coalition of peripheric countries starts to fight the centrally located power. Hermann Stegemann, in his book „The Mirage of Versailles“, is correct in emphasizing that Italy's defection from the Triple Alliance was determined rather by her peripheric position than by her historical antagonism to old Austro-Hungary.

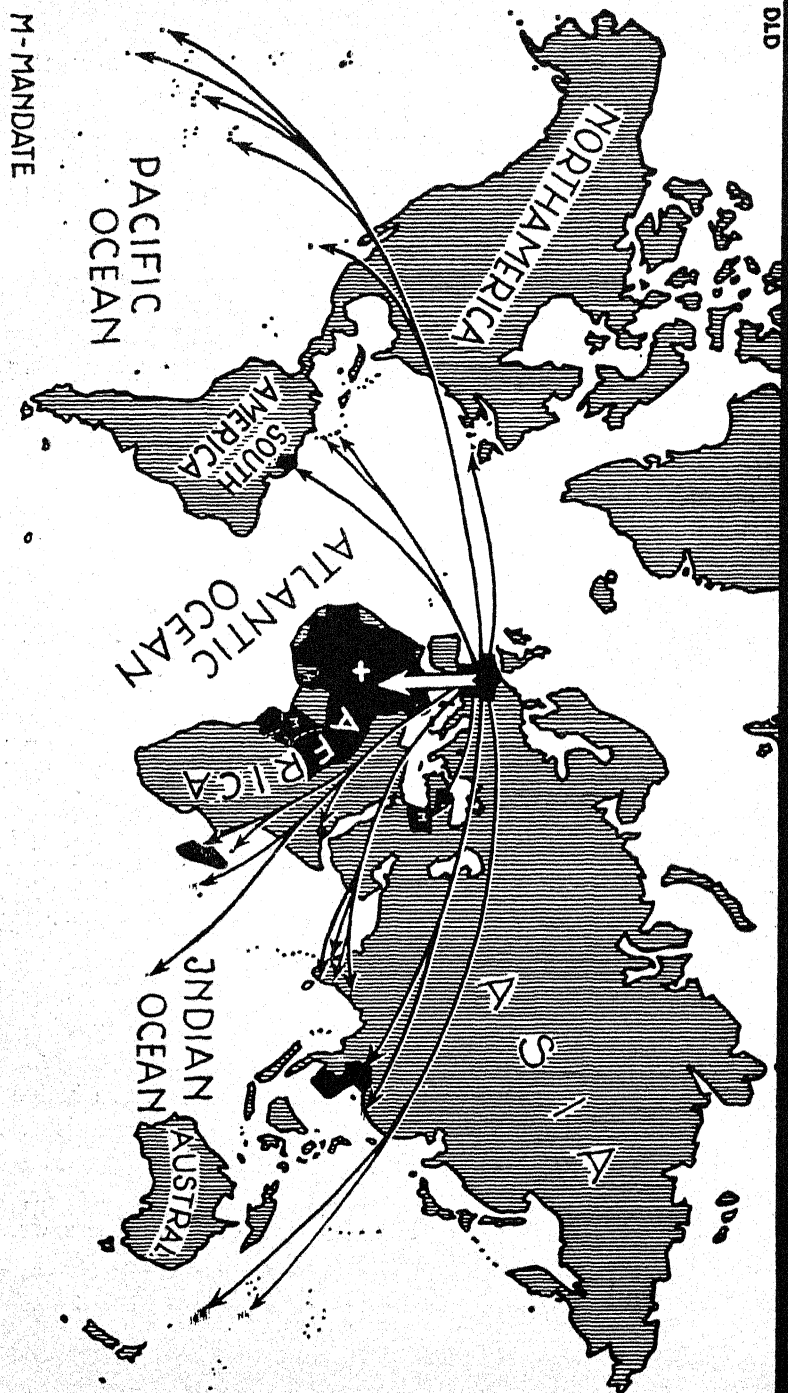
Germany, then, in contrast to France, has only a very limited possibility for making alliances. As in practice, her situation is in theory essentially less favourable than that of France. In this important case of „potentiels de guerre“, as in others, France is far superior to Germany.

IV.

Colonies

Colonies are not necessarily an asset in the „potentiel de guerre“ of a country. However, the French colonies, the majority of them at least, are no doubt an asset because of the decisive part they play in the French system of national defence, both militarily and economically. This is true, first of all, of the territorially adjoining French colonial empire in Africa as well as of Indochina.

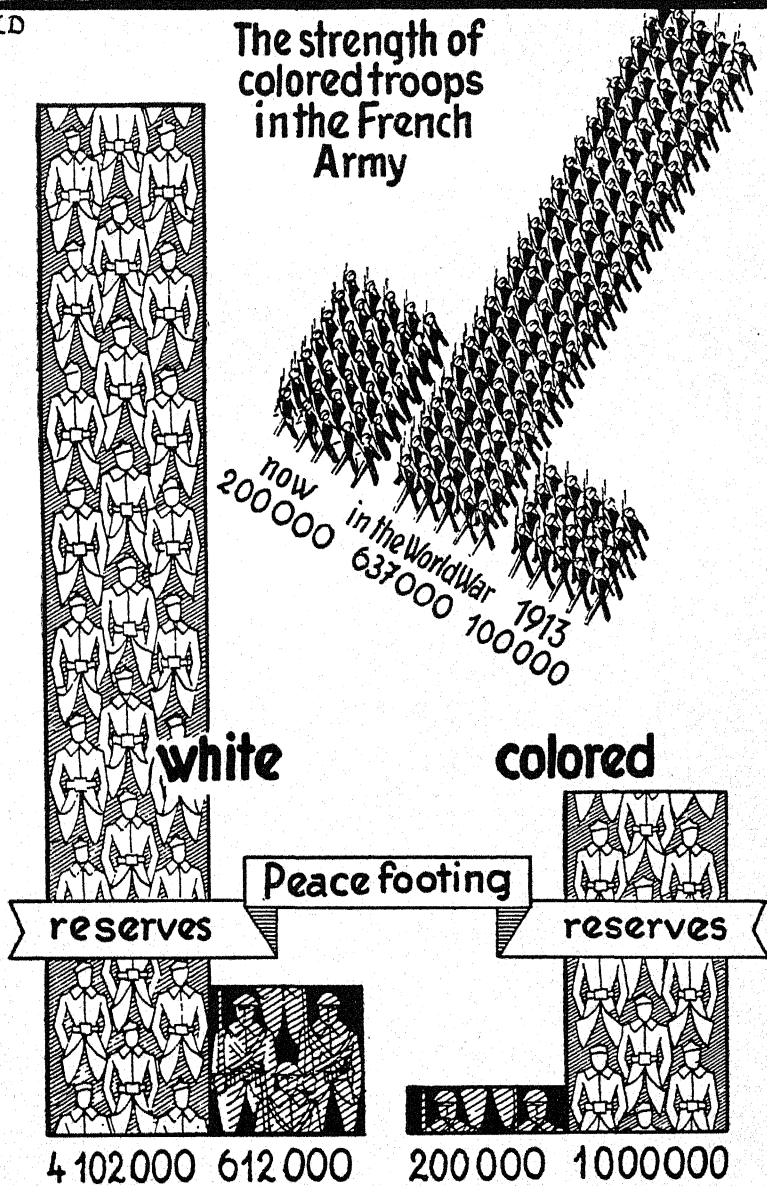
Besides the two League mandates, Cameroon and Togo, the French colonial empire in Africa comprises a total area of about 9.9 million sq.km and a total population of about 30 million inhabitants, Tunis, Algiers, the largest part of Morocco, French West-Africa, French Equatorial Africa, French Somali Land, and Madagascar, Indochina with a total area of approximately 711 000 sq.km and a total population of about 19 000 000, the colony of Cochinchina, and, finally, the protectorates of Annam, Cambodsha, Tonking, and Laos. Both the African empire and Indochina are in the first place „reservoirs of manpower“ for the support of France's position of power in Europe — to what a degree is most clearly seen by the number of colored troops and labourers who in the last war were employed on French soil or in other seats of war. There were, in all, 567 500 men in the army, 173 000 from Algiers, 80 000 from Tunis, 40 000 from Morocco, 181 000 from the Senegal region, 41 000 from Madagascar, 3500 from French Somali Land, and 49 000 from Indochina. The number of labourers was 310 000 men in all, of whom 119 000 men were furnished by Algiers alone, 30 000 by Tunis, and 35 000 by Morocco. These figures will be materially



The French Colonial Empire

DLD

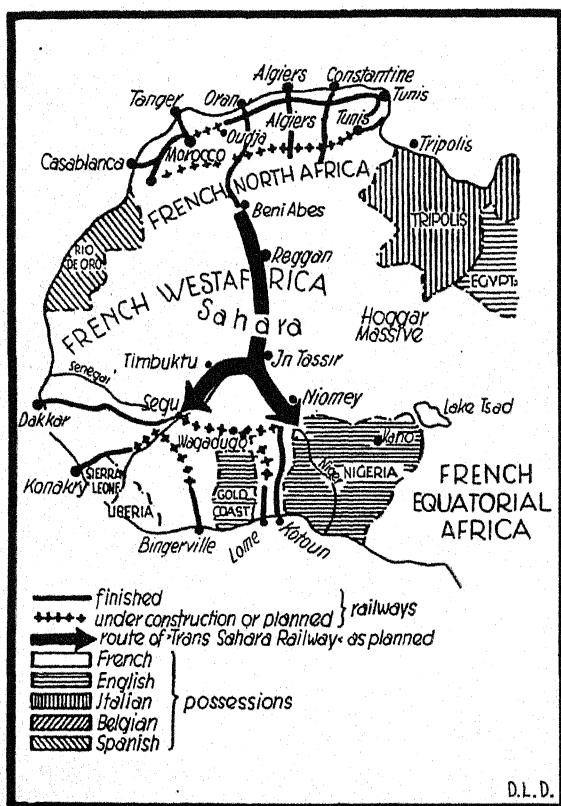
The strength of colored troops in the French Army



The military value of her colonies for France

higher in a future war, for the reason that today the colored troops occupy a far more significant position in the French military organisation than before.

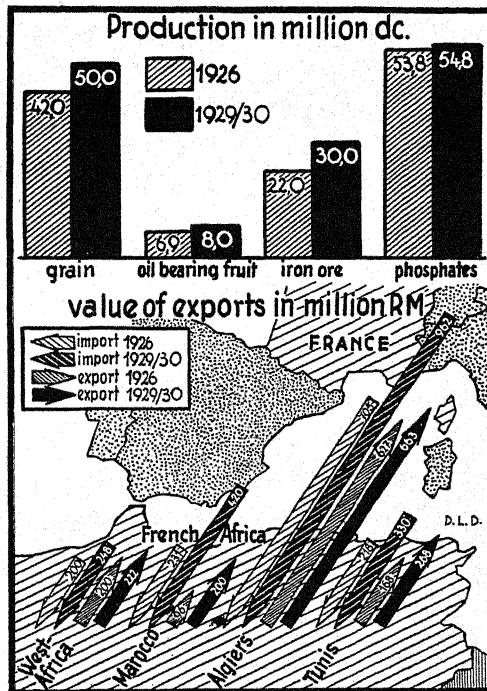
Before the war, there was not a single colored soldier in European France proper, the sum total of colored troops being not



**Trans-Sahara-Railway and other French railway constructions
in North Africa**

quite 100 000 men. Today it is nearly 200 000 men in peace, of whom there are five complete divisions, two North African and two Senegal divisions among them, permanently stationed in European France. Eight more divisions are located in Northern Africa in such a way as to make it possible to have them speedily transferred to Europe for use. Almost one third of the entire French army, then, consists of colored men from French Africa — North, West, and

Equatorial. But this does not by any means exhaust the manpower of those regions. Their peacetime contingent amounts to at most 25 % of their actual manpower. For a future war we must reckon with a complete exploitation of that manpower. Very soon after the beginning of the war, there will arrive and be used in France at least 600 000 to 700 000 men from North Africa and the Senegal region alone. For, within the last few years, France substantially extended



The economic value of French Africa

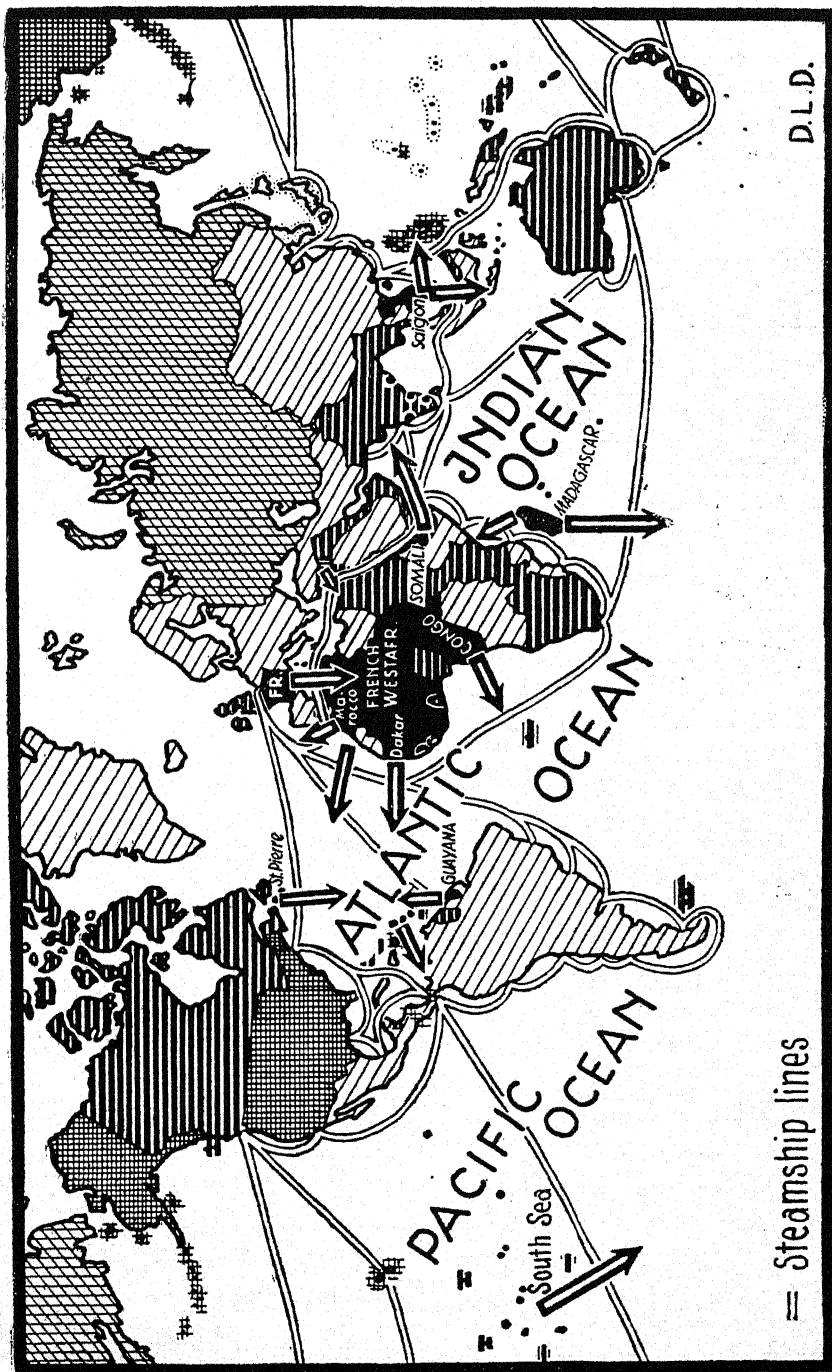
and perfected her railway system in Northern and Central Africa, upon principles primarily military. At the same time she modified and intensified her regulations concerning the militarisation of her colonial manpower to such a degree as to impose upon the **French colonies practically universal conscription.**

In every colony there is annually required a definite contingent of men which must be filled by conscription, besides the enlistment of three-year-volunteers and of capitulants. Enlistment takes place at the age of twenty. The period of service in the active army is

generally two to three years, in the reserves eight years for men who have done service, ten years for others. The volunteers' contract is made out for several years. It may be extended several times until the sixteenth year of service. In 1923, according to the expert opinion of the well-known French Colonel Fabry, the war strength of the colored troops was estimated to be 1 600 000, beginning with 1933 at the latest.

So much for the purely military function of the French colonies within the organisation of French national defence. No less important is their economic value. In the first place, the colonies offer France extremely valuable markets capable of further development. More than that, they enable France to draw a large part of her needed foodstuffs and rawmaterial from her own possessions. French North Africa alone, e. g., owing to its wealth of grain and cattle, lumber, and phosphates, supplies to France today about 20 % of her total grain imports, over 60 % of her total lumber imports, and nearly her entire demand for phosphates. These phosphates, containing from 58% to 77% phosphorus, are superior to the American ones. Their production is steadily increasing. It may today be rated at about 4.4 million tons a year. The value of the stock of cattle in French North Africa is estimated at several billions, in Algiers alone at 3 billion goldfrancs. In this way the colonies were of considerable service to their mother country during the war, supplying foodstuffs and rawmaterial. They will be of far greater service yet, in the future, once the much discussed Trans-Sahara-Railway is a fact. This railway will make possible a better exploitation of the rich timberlands of French West Africa and, especially, the completion of further French plans purporting to make of the Niger valley a vast cottonproducing country upon the model of Egypt and the Soudan. Natural conditions in the Niger region are very favourable. The space available is an area of 1.5 million hectares of which 700 000 hectares are to be placed under cultivation to begin with. France will then be able to supply from her own property in Africa, instead of North America and Egypt, her demand for cotton, if not entirely, at least to a large extent. We may realize what this will mean, when we consider the fact that France's annual demand for cotton, at present, amounts to about 350 000 ts. and that it takes annually 4 billion goldfrancs on the average, now paid to North America and Egypt, to supply that demand.

All that illustrates the eminent value accruing to France for her national defence from her colonies as sources of military and



Value of French colonies: favourable geographic conditions for transportation and naval strategy

economic power. This value is very considerably increased by their favourable geographic location with reference to the most important transoceanic routes of traffic and commerce, making it extremely easy for France to protect, if need be, her overseas commerce and her overseas imports of foodstuffs and rawmaterial. France uses that geographic situation to explain, on the one hand, to the outside world her excessively strong military armament. On the other hand, France tries to cloud the facts by stating that not only the five colored divisions stationed in France, the so-called „forces mobiles“, but also the forces stationed in the colonies themselves, the so-called „forces d'outre-mer“ are intended solely for the protection of the colonies and for maintaining order within them.

Before the war, Germany kept only 6585 men in her quondam protectorates which had an area of about one fifth of the present extent of the French colonial empire. France, however, claims that she needs, for five times as much territory, fifty times as many troops. A comparison with British conditions is likewise instructive.

British West Africa has 24 million inhabitants. Its military forces are 187 officers, 145 British grades of service, and about 5000 native soldiers. French Central and East Africa together have a population of only 16 millions, but a military contingent of about 500 officers, 2600 French and 17 000 colored soldiers, besides a police troop of 10 000 men.

An additional fact calls for attention, viz., that of the five colored divisions permanently stationed in France, three, the two North African divisions and one of the two Senegal divisions, are placed next to the German and Italian borders. Can there be a better proof for the fact that those divisions, as well as the „forces d'outre-mer“ are primarily intended for use in Europe and that France considers her colonies, now as before, first of all „reservoirs of manpower“ for her national defence?

We are consequently justified in calling the French colonies a very valuable asset in France's „potentiel de guerre“ as over against Germany which has no colonies at all today. Even if Germany still were in the possession of her former protectorates, she could hardly protect them, not to speak of using them for national defence, in any way approaching the methods of France. The fate of the German colonies during the last war is sufficient evidence. Their geographic location, their great distance from the mother country, and Germany's own maritime situation were equally unfavourable.

V.

Population and Military Power.

Germany, without the Saar District, has a population of about 64.4 millions (memorandum of the Minister of the Interior, 1931); France (census of 1931) has nearly 42 million inhabitants. From a merely numerical point of view France is, therefore, inferior to Germany by about 23 million inhabitants. Such inferiority, however, is only apparent. It is true only of European France without considering the military possibilities resulting to France from the population of her enormous colonial empire and from the close connection between French North Africa and European France.

The ratio of populations between Germany and France will appear quite different, when **France** is not regarded as a people of 42 millions, but as **a nation of one hundred millions**. Such she herself claims to be, according to statements by Poincaré and other prominent Frenchmen; and such France actually is, militarily speaking, in view of her extensive use of the colonial populations for her own national defence. The original inferiority, therefore, has been changed into a superiority by approximately 40 millions. The proportion is still less favourable for Germany because, for her national defence, she is restricted to her own population of which there is not even the full number available. Germany must at least take into consideration the possibility that in case of war she will practically be deprived of the manpower of the unprotected border regions, especially of the demilitarized zone along the Rhine. Much less will she be able to draw upon, for national defence, appreciable numbers of her nationals abroad.

France, on the other hand, can depend upon the population of her colonies, as well as upon the manpower of her allies. For a comparison of population and manpower between France and Germany, France must be credited with all of Belgium's population of 8 millions, and with at least one half of the 32.5 million Poles, 14.7 million Czechoslovakians, and 18 million Roumanians.

France, consequently, has at her disposal a far greater manpower than Germany does. Even leaving the 60 million colored people of her colonial empire out of consideration, France still has a superiority of about 20 millions. As far as human beings can judge, Germany will, in the near future, hardly be able to make up for that superiority, militarily or numerically. On the contrary, it will even increase materially within the coming decades as soon as the really

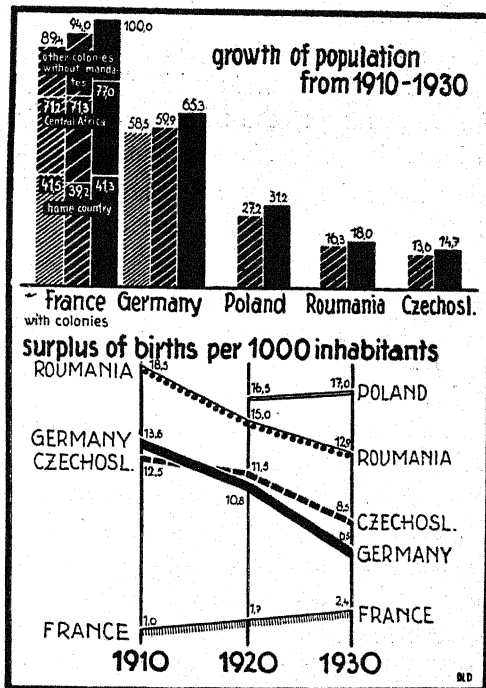
catastrophic falling-off of Germany's birth rate of the past few years will take its effect. With an approximately equal figure for the total population, there are in Germany now 800 000 children less per year than the average of the period between 1906 and 1910. The German birth rate, in 1925 still about 20.7 living-born per thousand, had de-



creased to about 17.5 as early as 1930. It lies even today below that of France, and below the limit guaranteeing the continuity of the average. If it falls still more — and it will certainly for some time to come — Germany will have more forty year old people than twenty year old ones within 15 to 20 years from now, and, within 50 years, nearly 20 million people less than today. With that number Germany will have reached the point where Clemenceau wished to

have her, when he spoke the words: „There are twenty million Germans too many in the world“. Her population will be below the status of European France.

The ratio of populations will become increasingly unfavourable for Germany, even if her birth rate should rise again (which is not probable) while decreasing still more in France. Any deficiency on the part of France would be compensated for by the development



**Development of populations of France, of her colonies, and of her allies,
as compared to Germany**

of the population of Poland which is allied to France. Poland's development shows a steadily rising tendency. With a birth rate of over 32 per thousand in 1930, Poland today belongs to the most prolific countries, not only of Europe but of the world as settled by whites. Poland has a considerably larger annual surplus of births than Germany, while having a population not even half as numerous. According to official reports of the latest Polish census, of 1931, Poland is on record for an increase of population, since 1921, of more than 19 %. Her population is at present 32.5 millions as over against

only 26.8 millions in 1921. It increased by over five millions within the course of ten years.

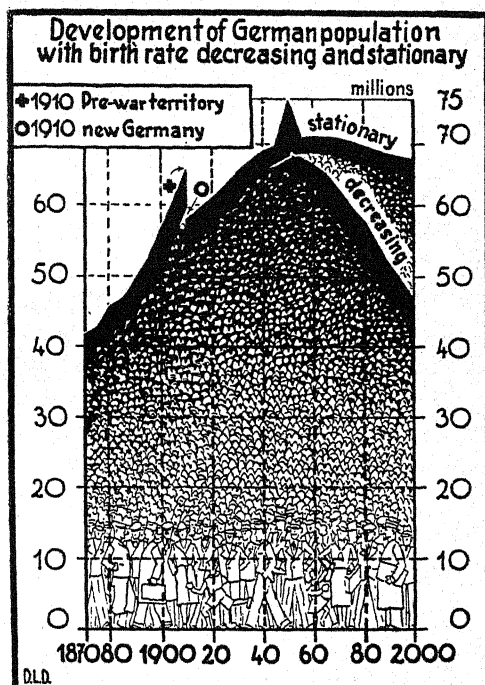
However, all of that does not play a decisive part in a comparison between the populations of France and Germany from the military point of view. Much more important than the numerical strength of the available human material is its military value and the degree of possibilities, for each country, of making an effective use of that material in case of war. That degree is very low in Germany, as is well known; in France and her allies it is very high.

Except for the small number of professional soldiers left to her, Germany has not been able to train militarily any part of her manpower, since the war, owing to the military system imposed upon her by Versailles with all its prohibitions and restrictions.

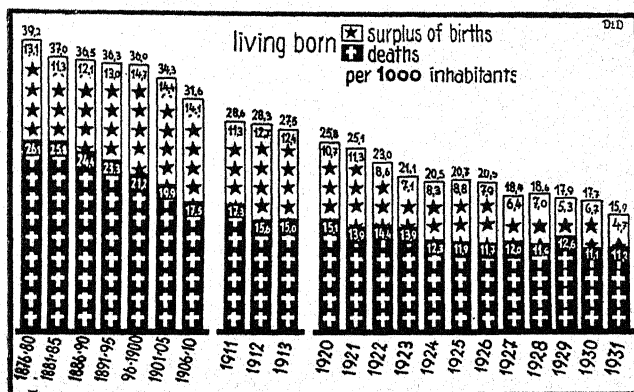
All men that reached military age since the war are untrained. All men still trained and capable of war service by the end of the war are today either too old or more or less completely incapacitated for military service and its exertions, owing to the fact that in Germany a system of military reserves is totally lacking. The younger classes that make up the core of an army are not available at all. The military value of the older classes, as far as they still exist, is but very small and not at all comparable to the same classes in France and in the countries allied to her. On the other hand, it has repeatedly been declared by experts that no military value can be attached to the so-called „Protective Leagues“ („Wehrverbände“). Only an infinitesimally small percentage of Germany's population has had military training for war.

France, however, and her allies, owing to universal conscription and extended military training of young men, have, since the war, been giving the entire able-bodied part of their populations the most careful military training, constantly renewing that training by numerous practice periods for the reserves. At the same time, they prepared their mobilisation carefully to the last detail and created very strong contingents of professional soldiers, the French contingent of 230 000 men alone being twice and a half as strong as the whole of the German army.

Accordingly, France and her allies today possess many millions of firstclass trained soldiers and, at the same time, a safe guarantee that they will be able to put in the field correspondingly large armies within a short time, in case of war. Germany, however, cannot do that. The Treaty of Versailles forbids any preparations for mobilisation. The Interallied Commission of Military Control caused



Will Germany remain a 60 million people?



Development of birth rate in Germany

all foundations and conditions for such preparations to be destroyed. How very difficult it is to put armies of adequate size in the field, if there have not been any preparations in peace, has been demonstrated by the experiences of the last war.

The organisation of the so-called Kitchener divisions in England took many months. More than a year passed until those divisions were usable at the front. When they finally were ready, it was evident that their value was only a limited one, compared to troops with a long training in peacetime. The Americans, later on, had the same experience. And yet, the organisation of both the British and the American divisions was done quite leisurely and without any disturbance from the outside, by a personnel sufficiently numerous and well experienced in the service of training. In a potential war, Germany will hardly be able to count upon conditions even nearly as favourable. The enemy armies will probably have occupied the interior of Germany before the Germans have a chance to think of mobilizing their available manpower.

In this respect, too, Germany fares much worse than France, when populations are compared as to their military value. Moreover, there is another important point in such a comparison. The distribution of the population within the inhabited space is essentially less favourable than in France. In Germany 30.1 % of the total population live in the cities, only 15.5 % in France. Germany has 50, France only 17 cities with more than 100 000 inhabitants. In France only six of those cities, with 1.3 million inhabitants, lie less than 150 km distant from the border, as over against 40 cities in Germany with 18.5 million inhabitants, 21 of them with 6.2 million inhabitants in the demilitarized zone on the Rhine.

It stands to reason that serious military disadvantages to Germany result from such a distribution, as compared with France, considering the fact that Germany has no protection whatever from air attacks and that the feeding of big cities and centres of population offers great difficulties in case of war.

VI.

Economic conditions

It is impossible to estimate in detail the economic conditions of two countries like Germany and France with a view to ascertaining accurately the „potentiels de guerre“ involved. Any attempt to

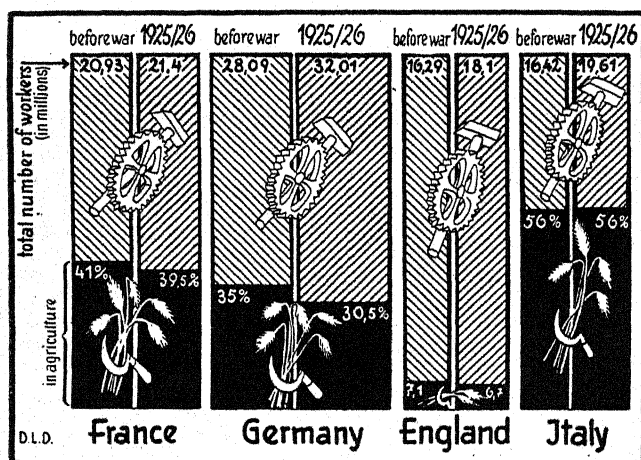
do so inevitably leads one into a labyrinth from which there is no escape. However, an opinion at least approximately clear, we may obtain from a **comparison of the general economic structure of the two countries**. We may examine their **opportunities for supplying vital demands from products of their own soil**. We may, furthermore, take into consideration the degree of **security** in each country as regards **obtaining from elsewhere foodstuffs and rawmaterial** they lack altogether or in part. Last not least, we must take into account the geographic position of the **principal districts of production** in each country, as well as the **character of their industries**. It seems practicable to start with France.

The general economic structure of France is no doubt eminently favourable. The territory available to the French people is relatively more advantageous than the territories of most other European peoples, both as regards extent and as regards quality. Within a space of 550 900 sq.km France need nourish scarcely 42 million people. Besides, she possesses a colonial empire, the second largest in the world and, at the same time, surpassing other colonial empires in being most compact and near the mother land. In addition, France is privileged by an unusually favourable climate and correspondingly great fertility of her soil. As Paul Rohrbach, in his book „Countries and Nations of the World“, correctly states, the climate of France is the most blessed on earth, the fertility of her soil in general much greater than in any other part of Europe. Thanks to her geographic situation France enjoys no less than four climatic regions. Within comparatively narrow limits she possesses possibilities of cultivation of a variety surpassed only by the vast extent of the United States of America.

Accordingly, to the present day, **agricultural** production exceeds industrial production. Nearly one half of the French people live on agriculture, while only 35 % are engaged in the industries and in mining. Nevertheless, grain production in France, including maize, has so far amounted to hardly more than 300 000 cwt. annually so that France is compelled to supply part of her demand of grain by importation. This, however, is not the fault of the French soil but, aside of other causes, due chiefly to the antiquated methods of French agriculture. There is no reason why France should not be able to support a double quantity of people on native products.

France is rich in treasures of the soil, too. Today, after the World War gave her the formerly German minette deposits of Lorraine, France, possessing 57 % of all deposits extant, is **richest in**

iron ore of all European countries. Her iron ore deposits, together with those of French North Africa, are estimated at about seven billion tons. In Lorraine alone, after the Luxemburg section has been transferred from the German to the French customs union, those deposits are considered **the largest compact iron ore region of the world.** France also has the richest bauxite deposits, consequently the largest aluminum production in Europe, and, finally, she has, in the formerly German potash deposits of Upper Alsace, a production of potash exceeding by far France's own demand, so that she was enabled to break the former German monopoly. It is constantly increasing, amounting to 1 296 000 t., in 1926.



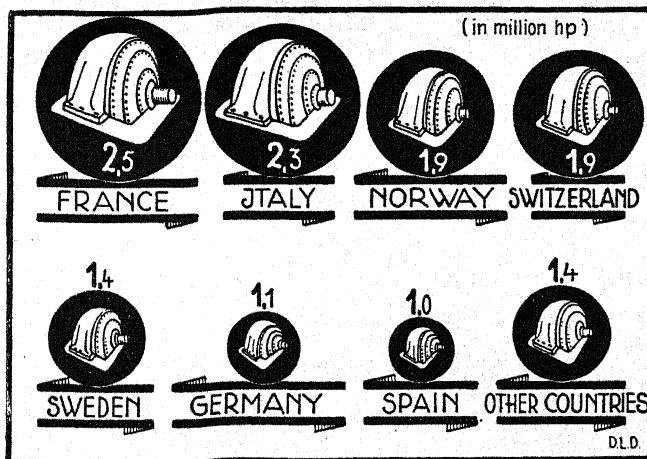
Agricultural population in France and Germany

On the other hand, France is relatively poor in coal. Her coal mines provide only about 50 million tons a year. They do not meet her own demand. France must import about 30 million tons annually. However, this deficiency of coal is equalized, if not entirely, to a considerable degree, by the extended **facilities of waterpower for industrial energy.** France, in the northern part of the French Alps, in the central and western sections of the Pyrenees, has available ample precipitations, a regular supply of water, and favourable territorial conditions. Thus France has been able to create a hydro-electric industry which even today furnishes $2\frac{1}{2}$ to 3 million hp.; in terms of coal, the power of 25 million tons of coal. As soon as the damming up of the Rhône, Isère, and Durance rivers is completed as planned, France will be able to **dispense with one half of her coal**

production for motorpower. At any rate, even today France has a leading position in Europe as regards development and exploitation of waterpower.

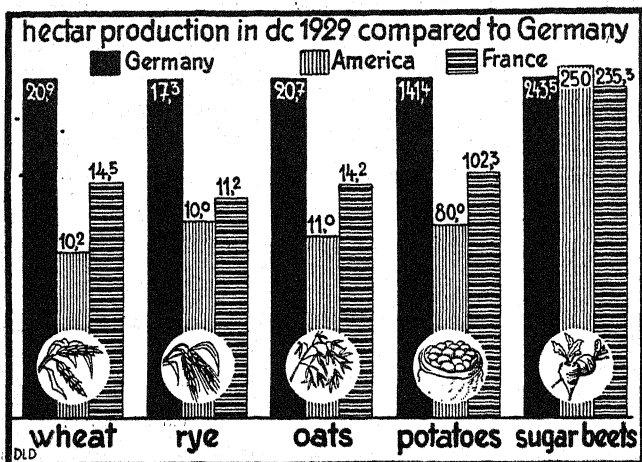
So much for the general industrial structure of France and for vital foodstuffs and rawmaterial as produced in her own country. In both respects France's situation is no doubt very favourable. France is in the position to produce to a large extent, if not altogether, what she needs. But how about Germany?

In the first place, Germany, in contrast to France, is far more an industrial than an agricultural country. According to the census

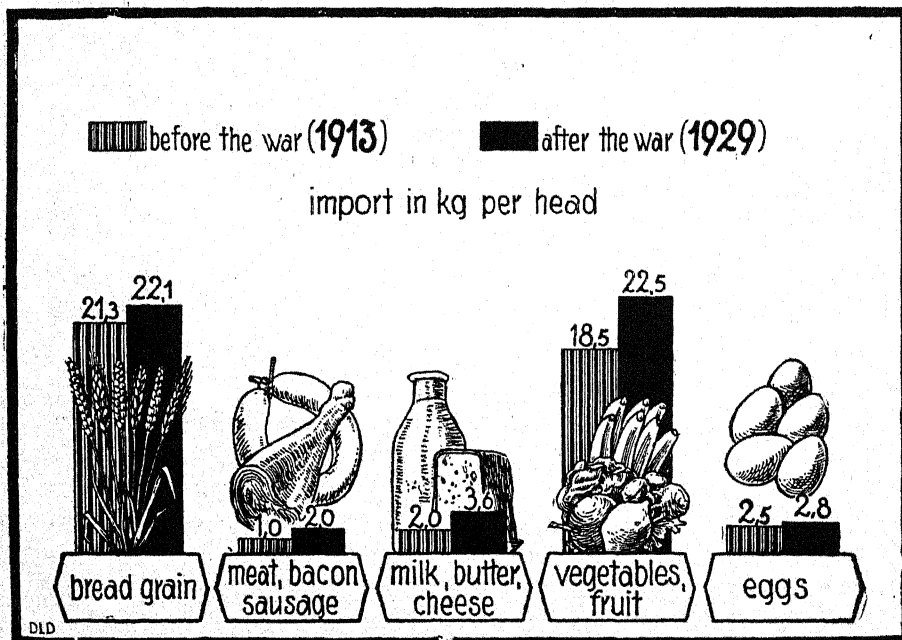


Utilisation of waterpower in France and Germany

of professions in 1907, only one third of the population in her present territory was engaged in agriculture and forestry, as over against almost one half of it working in the industries, in mining, and in the building trade. Furthermore, Germany, on a territory of only 472 000 sq.km must feed 65 million people, i. e., over 23 millions more than France which is larger by 789 000 sq.km. Germany has no colonies whatever. Above all, as regards climate, and quality and fertility of her soil, she is not nearly so much favoured by nature as is her western neighbour. Even Caesar emphasized the fact that Germany could not compete with Gallia with regard to the quality of her soil. Her lowlands belong to the northern section, while in the south there is a prevalence of inclement heights. The Germanic plain, to use another word of Paul Rohrbach's has become a **piece**



Utilisation of soil in France and Germany



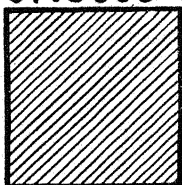
Essential foodstuffs Germany must import

The Treaty of Versailles

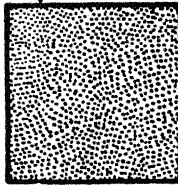
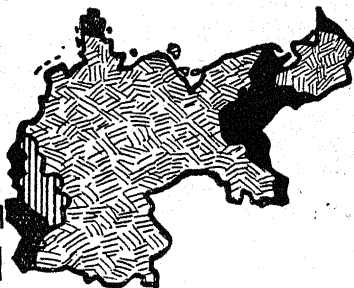
first balance of losses

1914 total area
541000 sq km

1914 total population
67.8 mill.



loss: 71000 sq km
= 1/8 of old territory



loss: 6.4 mill
= 1/10 of old population

Status of
1913

horses
4.5 Million.



losses

790 000

cattle



2.6 Mill.

21 Million.

hogs



3.2 Mill.

25.6 Million.

sheep



535 000

5.5 Million.

forestry



1.5 Mill. ha

14 Mill. ha

Status of
1913

grain
30 Mill. To.



losses

5 mill. to

potatoes



11 mill. To

54 Mill. To.

coal



49 mill. to

pr. 100 Mill. To.

iron ore pr.



21.30 mill. to

28.6 Mill. To.

zinc ore pr.



441 000 to

646 000 To.

potash



deposits

21.5 billion to raw potash
2.3 " pure pot.

raw pot. 1.5 billion to
pure pot. 300 Mill. to.

of earth populated beyond its natural capacity only by thousands of years of human toil. Germany possesses only few, by no means extended, areas of exceptionally fertile soil. By far the largest part of the land has been cultivated by hard work and is constantly in need of such work, unless its productivity decrease. Owing to that work Germany's annual output of grain amounts today on the average to about 217 million cwt., i. e., to about fifty million more than that of France. On the other hand, Germany has, as we have seen, over 23 million people more to nourish. But aside of the fact that the grain production of Germany does not cover her demand, it is capable of increase only to a limited extent, while it is so to a high degree in France. As regards metals and minerals, Germany is rich in coal but, after the loss of Lorraine, exceptionally poor in iron ore. The iron mines left to Germany supply little less than one tenth of her demand of ore. The deposits are estimated at 1262 million t. and will in all probability be exhausted within 50 years, except for the iron ore of Hannover.

Even before the war, Germany had not been able to supply her demand of foodstuffs and rawmaterial from her own soil. Much less so today, after the losses of territory and production incurred by the Treaty of Versailles. Her economic dependence upon foreign countries is no doubt greater, and her general economic structure correspondingly more unfavourable than that of France. But even assuming the two countries were equal in that regard, the total aspect of their economic situation is materially changed in disfavour of Germany, by comparing the degree of security for each country in procuring from elsewhere the necessary foodstuffs and rawmaterial they lack, or the quantities they are short of, respectively.

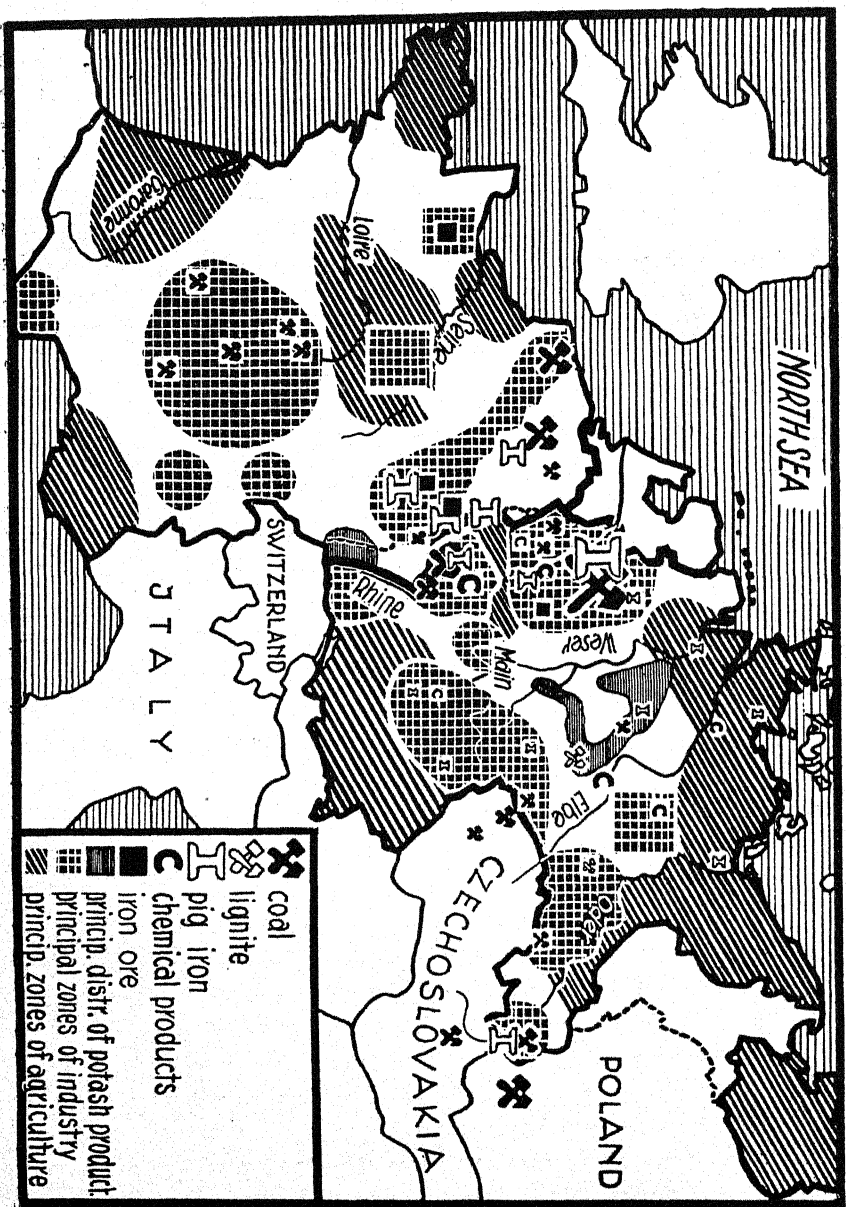
That degree of security is a very high one for France owing to the external conditions described above. In addition to what has been said, the extent of her colonial empire gives France a chance, not only to supply a large part of her demand of foodstuffs and rawmaterial from her own possessions, but also to protect, in case of need, her overseas routes of communication by creating numerous overseas naval stations.

Furthermore, **France is territorially and geographically connected with the most important districts producing copper and lead, of all Europe;** the celebrated copper mines on the Rio Tinto and the lead deposits in the Sierra Morena and the province of Murcia in Spain. France's close neighbour and political ally is Belgium, rich in coal and zink. Allied Poland and Yugoslavia may furnish more coal and

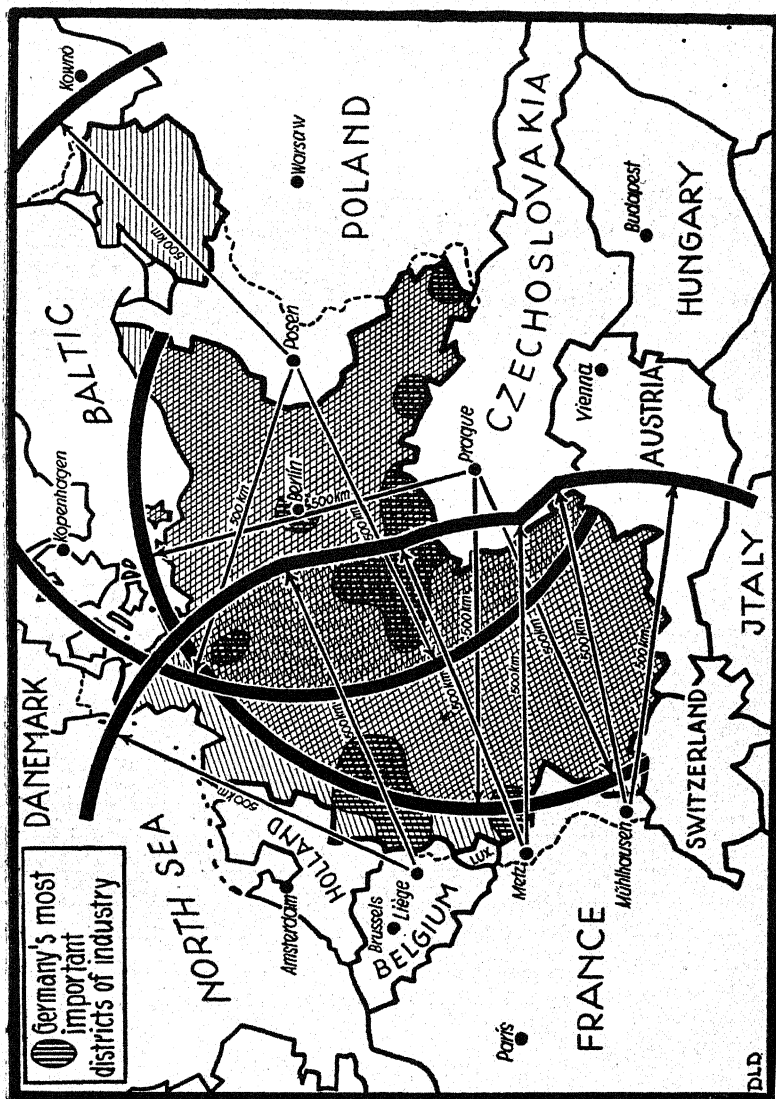
zink, and more copper, respectively, while Polish Galicia and Roumania can supply petroleum. It is true, the connection with the latter countries is not so safe, in case of war, as the connection with Belgium and Spain. Nevertheless, in the matter of rawmaterial those connections may be included in a discussion of the „*potentiels de guerre*“ of France's economic situation, for these reasons: France's allies, Poland, Roumania, and Yugoslavia, are territorially and politically connected with one another and, all of them, militarily strong, while there is a twofold possibility of transportation, across the Baltic in the north, across the Mediterranean in the south. As to petroleum, the provisioning of France will be greatly facilitated, once the oil fields of Mossul are exploited, where the interests of France amount to 25 % of production. These 25 % are expected to meet the entire demand of the country.

In contrast to France, Germany's situation in the matter of foodstuffs and rawmaterial is absolutely appalling. In case of war Germany is practically dependent upon her own resources, in consequence of her unfavourable maritime situation and because of the French alliances on her borders, west, east, and south. She has no free access to the ocean, no colonies, and no overseas naval stations. Even in the Baltic Sea, having no submarines nor aircraft, Germany's communication with North European sources of rawmaterial is endangered by the submarines and airforces of France's Polish ally, while long stretches of land are bordered by French allies. The World War showed what all that meant for Germany. Her economic condition, in case of war, as compared to France, appears still more unfavourable when we consider the geographic location of the principal districts of production in both countries.

Those of Germany, nearly all of them, lie in close proximity to the frontiers, both the agricultural and the industrial districts, the latter for the most part even within the demilitarized zone on the Rhine. For agriculture, it is mainly the provinces of East Prussia, Pommern, Grenzmark Posen-West Prussia, and Lower Silesia; for industries, particularly the Rhenish-Westphalian and Saar districts, the Palatinate, the Upper Rhine and the Main, the industrial districts of Saxony and Upper Silesia. After the loss of the largest part of the Upper Silesian industries, the Rhenish-Westphalian district furnishes three fourths of Germany's entire production of coal. All those districts are very seriously menaced, exposed to hostile attacks at any time. How great that menace is, has been exemplified by the Ruhr invasion, furthermore, by a series of papers in „*Echo de Paris*“,



Situation of main areas of production in Germany and France



The menace to Germany by the air forces of France and her allies

1926/27, dealing with the question of the evacuation of the Rhineland. To judge from their tenor and from the accompanying charts, these papers without doubt originated in the circles of the French General Staff and of the French Supreme Command of the Rhine Army. One passage reads: „The big German metal industry in the vicinity of Cologne, Düsseldorf, and the Rhenish-Westphalian basin lies open to the attacks of our bombing squadrons.“ This one little sentence speaks plainly enough, especially in view of the present strength of the French airforce. The geographic situation of France's principal districts of production is quite different.

The principal districts of production of France, except for the Lorrainean industrial district and the coal mines of the Departements Nord and Pas de Calais, either lie more or less in the interior, or they are protected by high mountains and by maritime boundaries, both the agricultural and the industrial ones; the former, near Paris, in Normandy, and Bretagne, in Central and Southwestern France, the latter, in the French Central Plateau, in Normandy, and in the eastern Pyrenees. In the French Central Plateau there is the remainder of the French coal mines, in Normandy and in the eastern Pyrenees the remainder of the French iron ore deposits. Equally favourable is the location of the bauxit deposits in Southern France and of the water power plants in the Alps and in the Pyrenees. Taking everything into consideration, the principal districts of production enjoy a large measure of natural protection, quite in contrast to Germany. Where, as in the east and northwest, they lack such protection, or where they lie near the frontier, they are protected in some other way: the Lorrainean industrial district, by the demilitarisation of the German western boundaries; the coal mines of the Departements Nord and Pas de Calais, by the alliance with Belgium.

Thus the economic situation of the two countries affords to France no doubt an essentially greater „potentiel de guerre“ than to Germany. This is increased still more by the character of their industries as a comparison of their relative values will show.

VII.

Industries

To begin with: it is not the total power of a nation's industry that decides its value as a „potentiel de guerre“. What counts, in this respect, is only the question in how far an industry is serviceable for military purposes.

French industry is distinctly characterized by its military value. In the first place, the pure armament industry of France is even in peacetime of an enormous capacity. In the second place, French industry in its totality is exceptionally well adapted to being used for military purposes immediately, in case of war. All of its organisation and establishments have in peacetime been carefully prepared for such a change, in every detail. Without the slightest difficulty it may start making war material as soon as war begins. As to France's pure armament industry in peacetime it is with regard both to the number and to the capacity of the existing plants and factories not only the strongest in Europe, but, counting the armament industries of France's allies, very likely the strongest in the world.

At the head of French armament industry are the **Schneider-Creuzot Company** and the „**Compagnie des Forges et Aciéries de la Marine et d'Homécourt**“, both working 80 % for military purposes. Besides, there are the following factories. **Sharp weapons:** about ten private plants; **rifles, pistols, and machine guns:** three government factories with a monthly capacity of 120 000 rifles and carbines, 5000 pistols, and 15 000 machine guns; for rifles ten more, for pistols six and for machine guns three more considerable private plants; **guns and minethrowers:** two government gun foundries, seven government artillery workshops, and nine big private plants; **infantry munitions:** two government cartridge factories and about 30 private works; **artillery munitions:** likewise 30 considerable private works; **powder and explosives:** 14 government factories and 25 considerable private works; **war gas:** about 24 private works, the powder factory Angoulême, and a large number of more government establishments; **gas protection:** about 20 private works, of which one alone, the „**Société des études et de construction de matériel de protection**“, has a monthly capacity of 200 000 gasmasks; **motor cars:** 53 considerable private works with a total production of 240 000 cars in 1929; **motor tractors:** about 25 considerable private works; **tanks:** one government factory and 8 private works; **war planes:** about 30 private works; **air plane motors:** about 12 considerable private works; **air ships and balloons:** four private works.

The peacetime capacity of this armament industry exceeds by far the domestic demand — the motor-craft and airplane industry does so by as much as 50 %. In order to keep up its high efficiency, France exports war material to a considerable extent. She is the exporter of war material not only for her allies, who are dependent upon her, in the east and southeast of Europe, but also for many

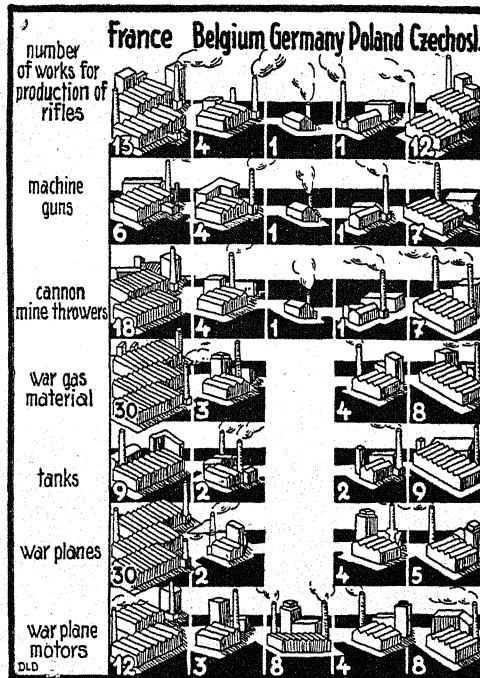
overseas countries like China, Japan, and South America. At the same time, the French armament industry is connected with numerous armament enterprises in allied countries, and in a few neutral countries, of Europe, holding a leading position in some cases, as e. g. with the Skoda works in Czechoslovakia and Poland, and with the government arms factories in Roumania and Yugoslavia. Here, too, the Schneider-Creuzot Company is foremost.

Besides, France, in the case of war, may rely upon the strong and highly efficient arms industry of Belgium, her ally and close neighbour. Belgium's production was very serviceable even before the war: with four army workshops, a big arms factory in Herstal, a rifle factory, a gun foundry, an artillery workshop, and a powder factory. After the war, Belgium developed her war industry considerably more, for instance, by creating her own aviation industry. She is today one of the world's greatest purveyors of war material. Arms used for the civil wars in China, e. g., for the most part come from Belgium.

Germany, on the other hand, has practically no armament industry. The manufacture of arms, munitions, and any other kind of war material has been forbidden to Germany by the Versailles Treaty, except for the absolutely indispensable needs of her small army. As to such provisioning, Germany is subject to strict regulations with reference to certain factories and workshops with definitely prescribed outfits. Beyond that, Germany was compelled to destroy, by order of the Interallied Commission of Military Control, all of her former armament industry. In about 7000 factories and plants, especially those of Krupp, Gruson, Ehrhardt, and the „German Works“, all establishments that had produced war material up to 1918, were destroyed, in many cases even razed to the ground. Armament and equipment of the small German army were cut down to 84 000 rifles and 18 000 carbines, 792 heavy and 1134 light machine guns, 288 light cannon, 22 heavy guns immovably set in the fortress of Königsberg, and 252 minethrowers, all of this with a quantity of ammunition hardly enough for a short fight in case of war.

German industry, therefore, serves today almost exclusively the production of peace material, in contrast to France. It has no chance either to adapt itself to the production of war material within a reasonable time, in case of war. What this means for Germany's military equipment, has best been expressed by the American delegate to the military subcommittee of the Preparatory Disarmament Conference, in the final report of that commission, in the spring of 1927.

On the basis of the experiences of the World War, the American delegate declared that **it would take an industry from 12 to 20 months to adapt itself from peace production to war production.** The United States, he said, were all through the World War completely dependent upon their allies for the equipment of their armies with guns, ammunition, tanks, and air planes. Within the period of 19 months, between the American declaration of war and the armistice, they got



Armament industries of France and her allies, as compared to Germany

only four guns to the front, of all those they started to make for their own troops after entering the war. Of all the shells fired by American artillery in the last Argonne battle, not one was made in the United States.

On the British side those statements are verified by no less an authority than Winston Churchill, who had been British Minister of Munitions during the last few years of the war, consequently very familiar with all questions pertaining to armament and equipment of the allied armies. Winston Churchill, in the third volume of the

book „World Crisis“ edited by him, writes that the American industry furnished ample material to the gun foundries of France and England but that it had not been able to produce more than 600, i. e., the twentieth part, of the 12 000 guns wanted for the American army, by the end of 1918, two months after hostilities ceased. Not until 1919, i. e., in their third year of war, could the American industries have fully asserted their unlimited productivity by furnishing guns, tanks, &c.

As regards military preparations, then, the German industry — that much is demonstrated by the above statements with an irrefutable intensity — cannot be compared with the French industry at all. It cannot compete with the French in any respect. Even if it tried, at the beginning of a war, to adapt itself to the manufacture of war material, it would soon be eliminated again, because it is too near the enemy frontiers and consequent enemy attacks, especially in view of the strength of the French air force. It has been shown elsewhere that, as far as can be judged, anything of the sort could not very well happen to French industry, for the very reason of its geographic location. It is all the more safe as French industry, which, before the war, centering for the most part around the sources of rawmaterial, lay near the German and Belgian boundaries, was transferred, during the war, from that risky frontier location much farther to the interior and to the seaports of the Mediterranean and of the Atlantic, according to conditions of transportation and of the expanding sources of electric power. This translocation has been advanced still more since the war. Except for Lorraine, the chief centres of French armament industry are above all Paris, Lyons, Le Creuzot, and Marseille.

French industry is, therefore, militarily — and that is the decisive point in estimating it as a „*potentiel de guerre*“ — far superior to German industry. All the more so, as France is making strenuous efforts to improve her situation with regard to rawmaterial in war, by storing up considerable provisions in peace, particularly copper and petroleum. Besides, the French government has the privilege, in case of mobilisation, to confiscate all sources serving to meet the demands of the armed forces and of the civilian population, and to make even in peace an exact inventory in that direction. Furthermore, each ministry is obliged to determine and figure out exactly, in peacetime, what its tasks will be in war, and what rawmaterials, food, tools, labour, means of transportation and communication, and other resources are required. For the purpose of avoiding unjustified war

How much time it took to equip the USA army, 1917-1918.

MACHINE GUNS

Beginning of April, 1917: Ordered, Savage Arms Corp. 1300 light machine guns.
Beginning of May, 1917: second order, tenfold quantity.
Middle of Dec., 1917: first delivery about 2000 pieces, i. e., eight months later.
Middle of May, 1918: delivery of 16 000th light machine gun.
Conclusion: delivery of 16 000 light machine guns took 12 months, delivery of first 2000, 8 months.

TANKS

Decision to build tanks. Construction of two experimental types Aug., 1917
First model tank (French Renault) in America Dec., 1917
First delivery of about 30 tanks Oct., 1918
Ready at armistice (Nov. 7th, 1918) about 100 pieces
Conclusion: production of tanks takes between 12 and 18 months, if newly organized. (No American-made tank got to the front!)

STEEL HELMETS

The making of this part of equipment is most simple! Not until Nov., 1917 — 8 months after American declaration of war — there were enough steel helmets ready.

POWDER

End of 1917: Ordered, Du Pont Engineering Co., to build 9 factories with a daily output of 50 t. of powder.
Beg. March, 1918: Beginning of construction.
Beg. July 1918: First factory begins delivery, i. e., four months delay.
Beg Oct., 1918: Factory produces one half (!) of required daily amount.
Conclusion: Construction of factory takes 4 months; sufficient delivery of war material relatively easy to make, takes 8 to 12 months.

SHELLS

Decentralized production: shells, fuses, gun-cartridges, &c., in various factories, changed from peace industry to war production. Result: of 12 million 7.5 cm.-shells (April 1917, to November, 1918) 9 mill. were refused as useless, because inaccurate or dangerous! Order to Cammel Laird Factory, Nottingham, July, 1915. Beginning of construction: Aug. 1915. First delivery: May, 1916. Production required: 2000 28 cm., and 6000 20 cm.-shells per week. Done: Sept., 1916.
Conclusion: The average period of transformation till delivery varied between 5 and 12 months.

GUNS

Newly built gun factory of American Brake Shoe & Foundry Co. Beginning of construction, July, 1917. Model built: 15.5 cm. howitzers. First delivery ready for shipment: February, 1918. Period of transformation: 8 months.
Former munitions factory National Ordnance Factory, Nottingham: June, 1917, order for 20 18 cm.-howitzers per week. Sept., 1918: the first piece of this order leaves factory — months later!

The above outline of data first appeared in „Kölnische Illustrierte Zeitung“, January 1st, 1932. It is based upon the report of the British Major, Hector Lefebure, in his book „Scientific Disarmament“, demonstrating the length of time required for transforming industries for war production.

profits, special provisions have been made in peacetime to regulate the prices of military articles.

The above provisions are contained in the Bill on the „General Organisation of the Nation for War“, of January 1924. Despite several debates in parliament, this Bill has not as yet become a law. However, regulations of enactment have been issued by means of ordinances so that actually the mobilisation of French industry is, in peacetime, being prepared most painstakingly and in all directions. Germany, on the other hand, is forbidden any such preparations. Her financial plight would, of course, under any circumstances prevent her from storing up rawmaterial for relieving her deficiency in raw-material in case of war.

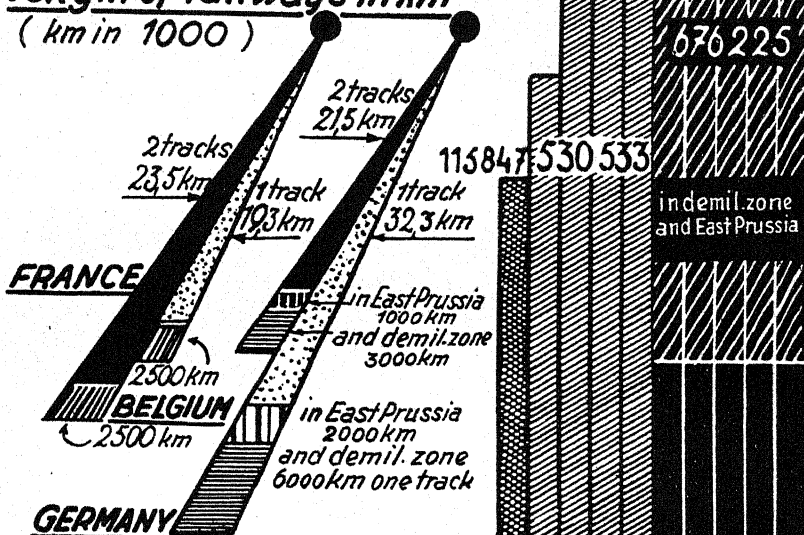
VIII.

Transportation

In viewing transportation in Germany and France, a comparison of the two respective **railway systems** seems to indicate, at first sight, that Germany has an advantage over France. If we make the normal track lines the basis of comparison, the German system with a total length of 53 795 km is longer than the French system by 11 000 km. With about 24 000 locomotives and 720 000 cars, Germany has about 3000 locomotives and 150 000 cars more than France. Finally, Germany's organisation and administration is far more centralized and simplified than that of France. While in Germany, with the exception of a few lines, the entire railway system is in the hands of the German Federal Railway Company (Deutsche Reichsbahn-Gesellschaft), the French railways, except for a small part controlled by the government, are practically owned by six big private companies.

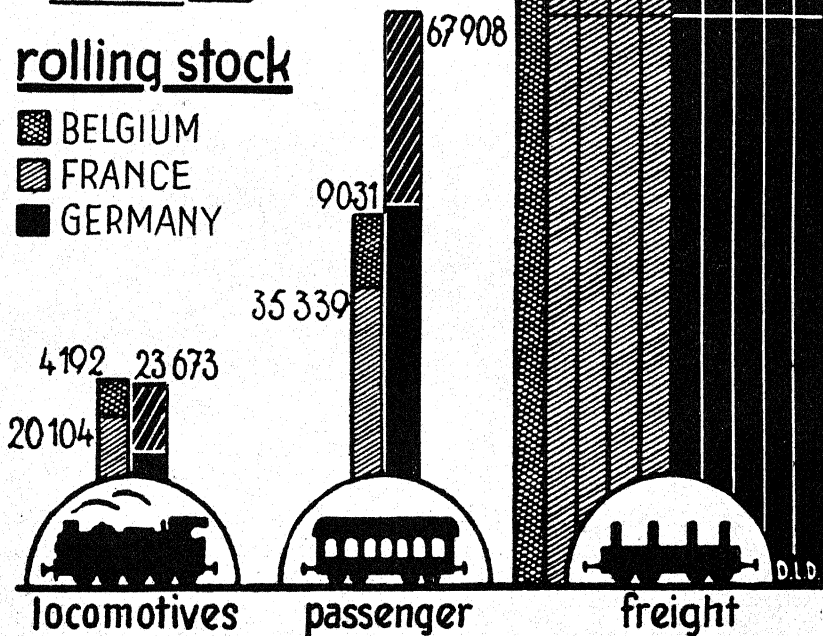
All that is correct. But does it make conditions of transportation in Germany more favourable than in France? Are they in particular more favourable from the military point of view (which is the real issue in our case)? Both questions can and must be answered in the negative. A country's transportation does not exclusively depend upon its railway system, nor does the efficiency of a railway system depend solely upon its length and its stock of rolling material, least of all where the question is how to estimate transportation and railway systems as factors of armament. In both cases a considerable number of other factors play an essential part, e. g., **the percentage of one-track and multiple-track lines; the stock of motor vehicles;**

length of railways in km (km in 1000)



rolling stock

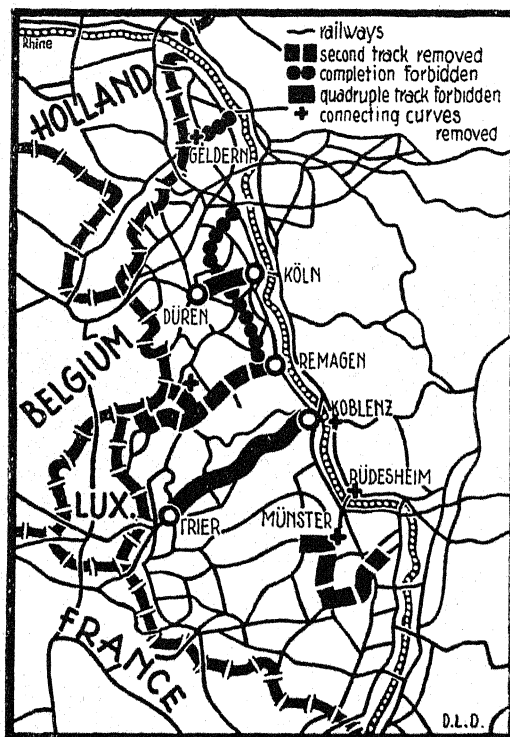
- BELGIUM
- FRANCE
- GERMANY



The railway systems of Germany and France

the water ways and air lines; finally geographic and political conditions, particularly in the case of two countries like Germany and France.

The above impression of railway conditions in the two countries will change materially, when we consider that France, with 55 % of her railways, as over against 40 % in Germany, has considerably

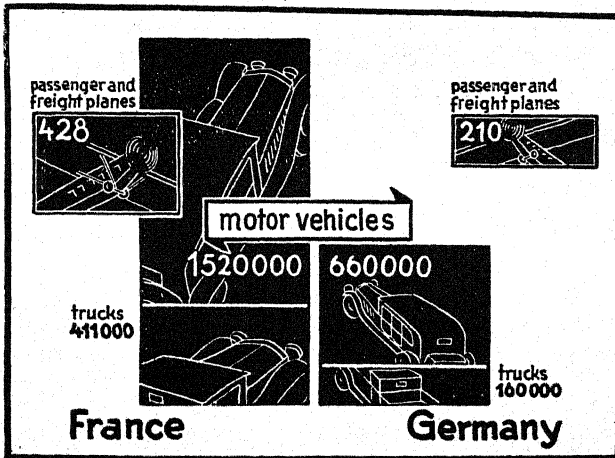


Restrictions of railway construction along the Rhine

more double-track and multiple-track lines than Germany, and that the efficiency of a double-track line exceeds by far the double value of a one-track line. Still more important: the **demilitarisation of the entire Rhineland** eliminates for Germany's national defence nearly 9000 km of her railways, while the **separation** of East Prussia from the Reich makes another 3000 km available only to a limited degree. France, on the other hand, has, for military purposes, not only the full use of her own railways but also of the Belgian railways, thanks to her alliance with Belgium. The Belgian railway system has a total

length of about 5000 km. Besides, 50 % of it are double-track or multiple-track lines.

France, consequently, has at her disposal for military purposes, at least 48 000 km of railways; Germany at most 43 000 km with a much lower percentage, as compared to France, of double-track and multiple-track lines; with a much higher percentage of tunnels and bridges, owing to Germany's difficult terrain. Moreover, in consequence of geographic and military conditions, the German rail-



Number of motor vehicles and transportation airplanes in Germany and France

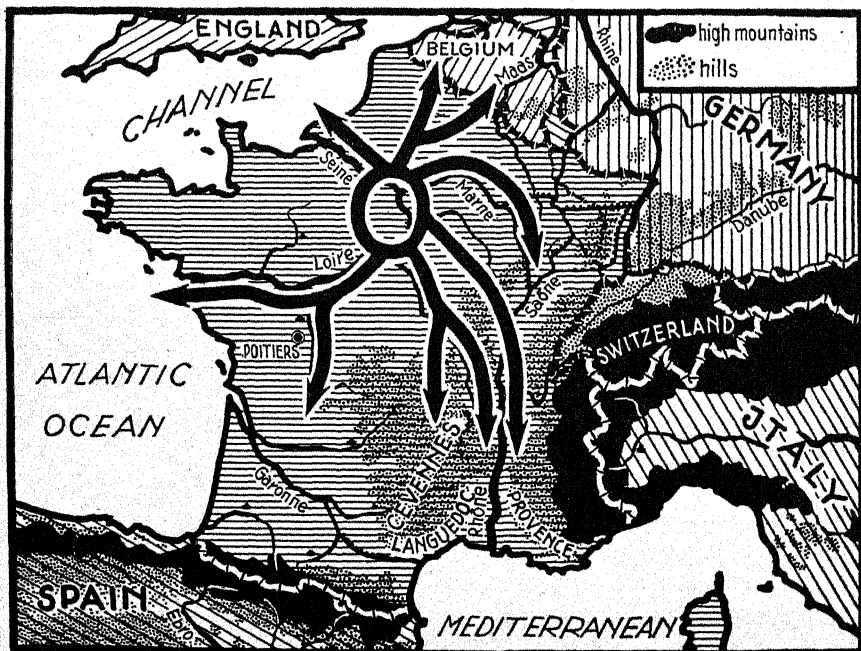
ways, in the case of armed conflicts, will have to meet much more severe demands than those of France in the same case. France need consider only Germany and Italy for opponents. She can, therefore, bring her whole railway power to bear in one direction. Germany cannot do that. Her potential adversaries are, besides France and Belgium, Czechoslovakia and Poland, so that her railways will have to be applied in very different directions.

Germany's railway situation is, therefore, **very much less favourable than that of France**, from a military point of view. This is true in the same way of the other means of communication, stocks of motor vehicles, water ways, and air lines in each country. In Germany, at the beginning of January, 1930, the **total number of motor vehicles** amounted to 580 000 at most, in France, at the same time, to nearly 1 300 000, i. e., far more than twice as many. In France

the average was one motor vehicle per 32 capita, in Germany, one per 111 capita. This ratio very likely has not changed very much since. What this means, in every respect, especially in a military one, need hardly be mentioned after the experiences of the World War, and in view of the function motor vehicles serve in all modern armies; particularly as means of transportation. Nor is there any need of calling attention to **France' immense superiority in the air.**

According to official reports of the French aviation ministry, France possesses 2800 war planes (besides reserves), to which Germany has not one to oppose. In civil aviation, too, France is greatly superior. According to the statistics of the International Aircraft Register, France, in 1930, had 428 passenger planes, as over against only 210 in Germany. As to the water ways in each country, an even casual glance at a map is sufficient to see the great advantages France enjoys in this field of transportation, too, compared to Germany.

The **French system of waterways** is, in all and in part, of a far greater compactness and uniformity than the German system, although the respective total length is about the same. The rivers are more divergently placed, geographic conditions (the watersheds lying at a



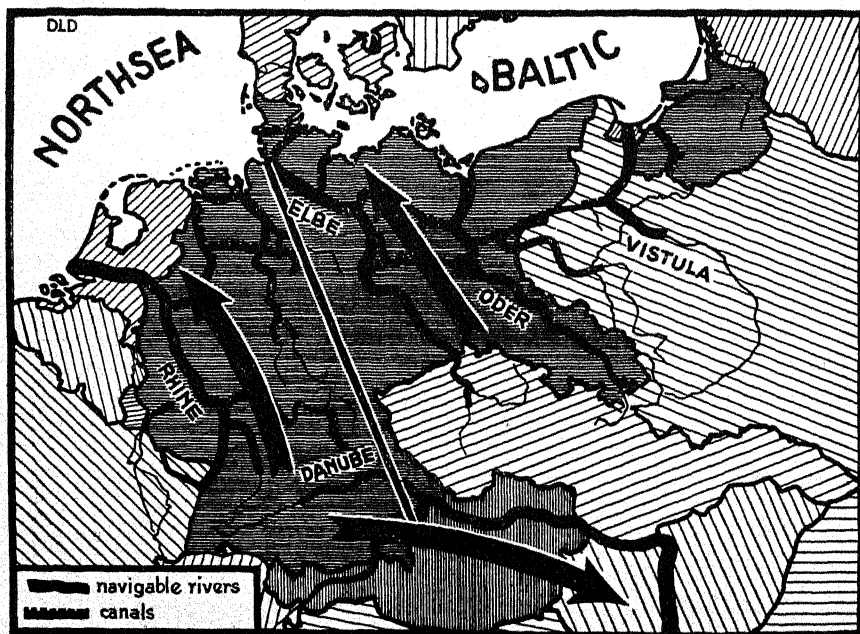
The French system of inland waterways

low level) are more simple; there are many canals. Nearly all important rivers, like Seine, Loire, Maas, and Rhône are connected among one another and, all of them, joined to the Rhine. Thus France has available continuous waterways in nearly all directions, particularly between the Mediterranean and Atlantic coasts, as well as between the most important harbours of those coasts and the Rhine. Her net of waterways is almost perfect. Besides, it is naturally and closely connected with the Belgian system. Both systems have been developed and improved, during the past few years, to a considerable degree. First of all, the Rhine-Rhône canal and the Rhine-Marne canal were improved, while new constructions are: the canal near Kembs, parallel to the Rhine; the canal of Montbéliard, connecting the upper Saône with the Rhine-Rhône canal; the Mosel canal between Metz and Diedenhofen, and the Canal du Nord from the Oise near Ribécourt to the Scarpe near Douai. Belgium, finally, started constructing a canal from Liège to Antwerp.

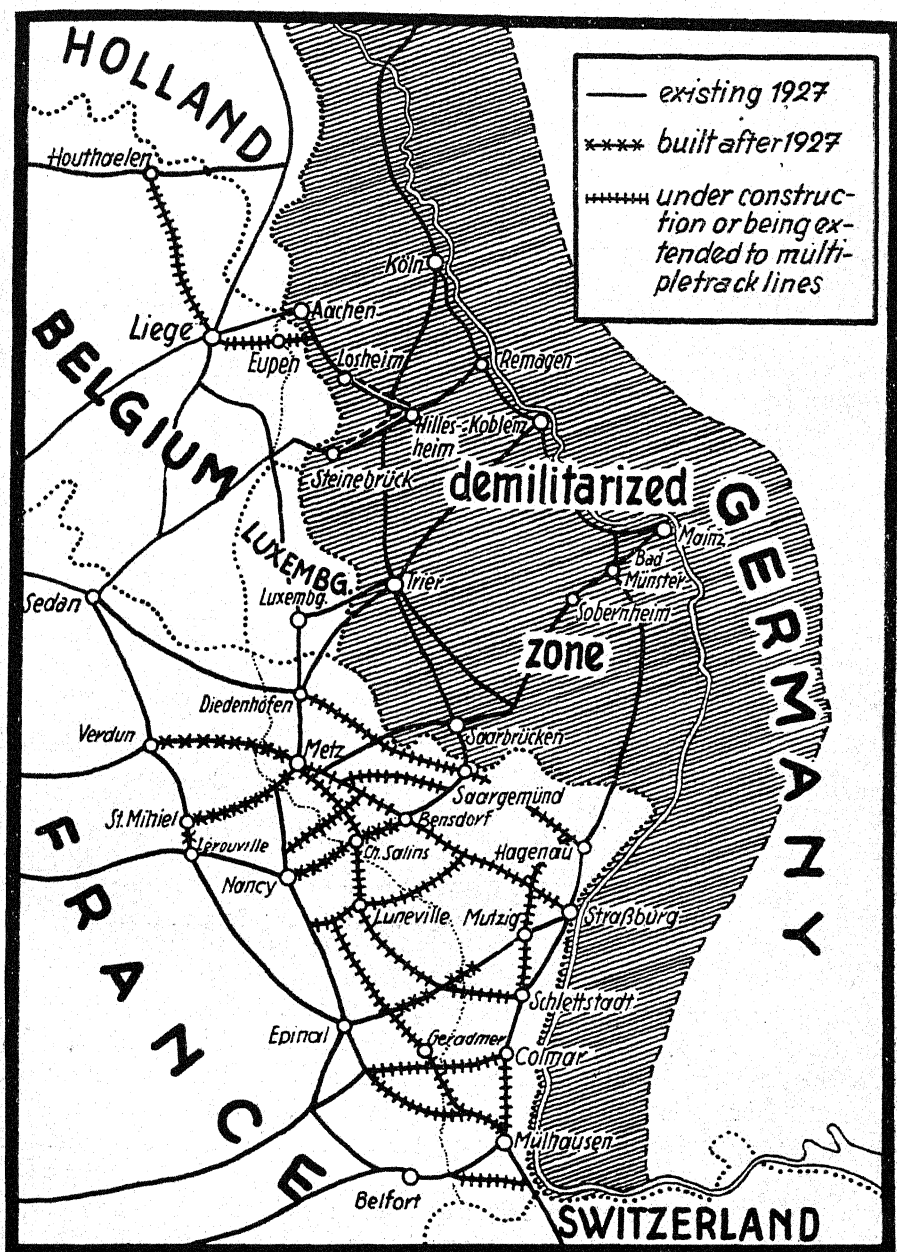
The **German system of waterways** lacks such uniformity for the reason that the most important German rivers take parallel courses. Besides, German territory is geographically diversified having numerous mountain ranges and high-level watersheds. There is, finally, no connection between Weser and Elbe. In consequence of this lack of connection, the German waterways system is split into two separate sections, the Weser-Rhine-Main-Danube system and the Elbe-Oder system. The gap between the two systems proved very detrimental during the World War. Under the circumstances, it will hardly be removed in the near future. But even if it should — by carrying the Inland Canal from Hannover as far as Magdeburg —, the waterways system of France would still be superior, since Germany would have only one continuous horizontal waterway connection. Furthermore, owing to more favourable climatic conditions, the French rivers are in winter not exposed to freezing as much as the German rivers are. Above all, **Germany is more or less strictly limited in the use of the most serviceable parts of her waterways system.** This is true, in the first place, of the Rhine whose course and canals, like the railways in the demilitarized zone, are for the most part militarily useless to Germany, while France can include in her military plans both the railways and the waterways of Belgium. It is true also, to a certain extent, of the Elbe, Oder, and Danube which by virtue of the **Treaty of Versailles**, have been **internationalized** and placed under an international administration.

Transportation in Germany and France, especially from the point of view of military value, is not merely determined by their system of railways and other means of communication in general, but to a large extent by their geographic location and character, by the demilitarisation of the Rhineland, the separation of East Prussia from the Reich, and the military alliances of France. Of equal importance is the fact that **Germany is forbidden any kind of preparation for mobilisation.** Moreover, deprived of an air force and of anti-air weapons, she is **unable to protect her systems of traffic and transportation from enemy air attacks** so that their use and utilisation in war is seriously impeded, while France has all possible facilities, owing to her strong air force and to her comprehensive military preparations in peacetime. Germany's theoretical advantage (more uniform organisation and administration) is more than sufficiently neutralized by those points, aside of the fact that the French war ministry and General Staff have, in peace and in war, a decisive influence upon administration and development of the French railway system.

All those facts cannot be valued too highly in a comparison of the **conditions of transportation in Germany and France from the**

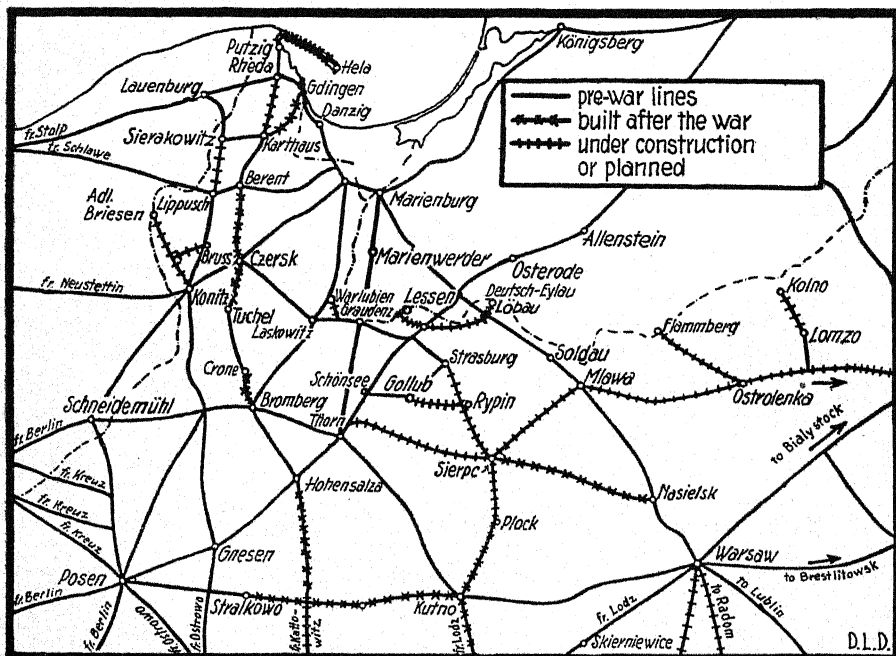


The German system of inland waterways



Construction of strategic railways in France and Belgium

point of view of „*potentiel de guerre*“. At any rate, they afford an impression quite different from a superficial consideration of the two railway systems. This impression will appear even more unfavourable for Germany, when all French and Belgian plans have been realized. The facilities of both countries for deployment against Germany are to be increased by the extension of existing lines to double-track or



Development of the Polish railway system along the German frontier

even quadruple-track lines, and by the construction of a large number of new lines. These plans have in part been carried out, in part they are in the process of execution or preparation. Accordingly, there will be built, in France alone, the following lines: a considerable number of double-track spur lines of the Upper Rhine, the Palatinate, and the Saar District; two new direct double-track connections between Paris and Metz; one such connection each, from Diedenhofen and Metz respectively to Strassburg, between Metz and Schlettstadt, Metz and Mülhausen, Epinal and Strassburg, Epinal and Mülhausen, and Paris and Colmar; finally, a quadruple connection between Nancy and Saargemünd.

After completion, France will have — not counting four double-track lines through Belgium — along the German boundary at least nine continuous double-track lines of deployment from the interior. Besides, there will be, within the limited area along the German boundary, at least five double-track longitudinal railways so that France, on her east border, is served by a railway system enabling her to concentrate, with the greatest speed, her whole army there or in Belgium; or, if need be, to regroup it.

Germany, however, has been compelled to desist practically from any further development of her railways in the demilitarized zone, for years to come. More than that, she had to destroy existing lines and establishments!

A comparison of transportation for military purposes in Germany and France results in the conclusion that the situation is in every respect far more favourable for France than for Germany, especially considering the further fact that, similar to conditions on Germany's western boundary, railways and other means of communication on Germany's eastern boundary, in Poland (which is allied to France), are constantly being improved with the aid of French capital.

IX.

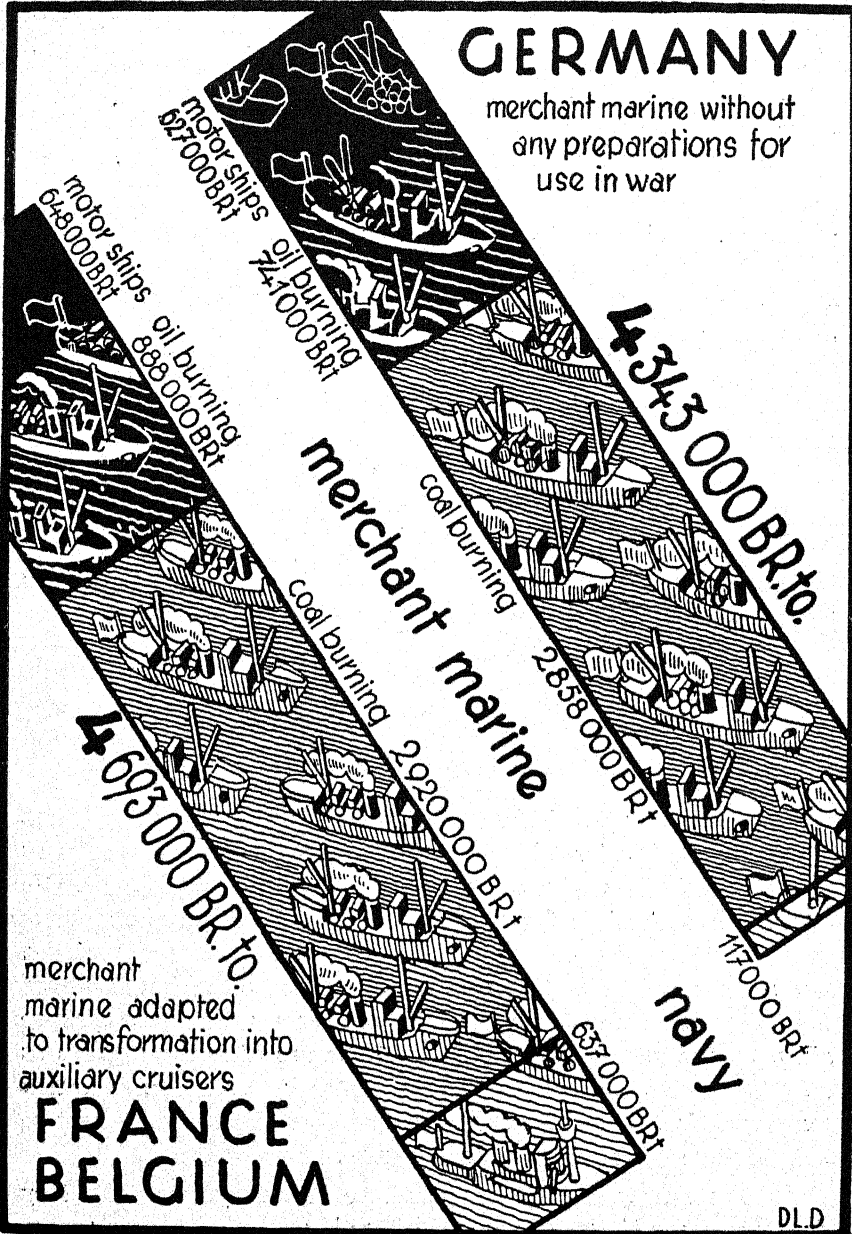
Merchant Marine and Civil Aviation

Both Germany and France have very great merchant marines, Germany: 2151 ships with a total of 4.2 million gross register t.; France: 1521 ships with a total of 3.5 million gross register t. No doubt, the possession of such large merchant fleets may be an asset to the „*potentiel de guerre*“ of a country, not only for transportation but also for strictly military use. Practical availability depends upon the co-existence of a strong navy and of overseas stations, and, above all, upon the question whether or not the use of merchant ships as auxiliary war ships has been prepared for in peacetime. For that purpose their armaments must be kept ready and their decks must be constructed strong enough to carry guns.

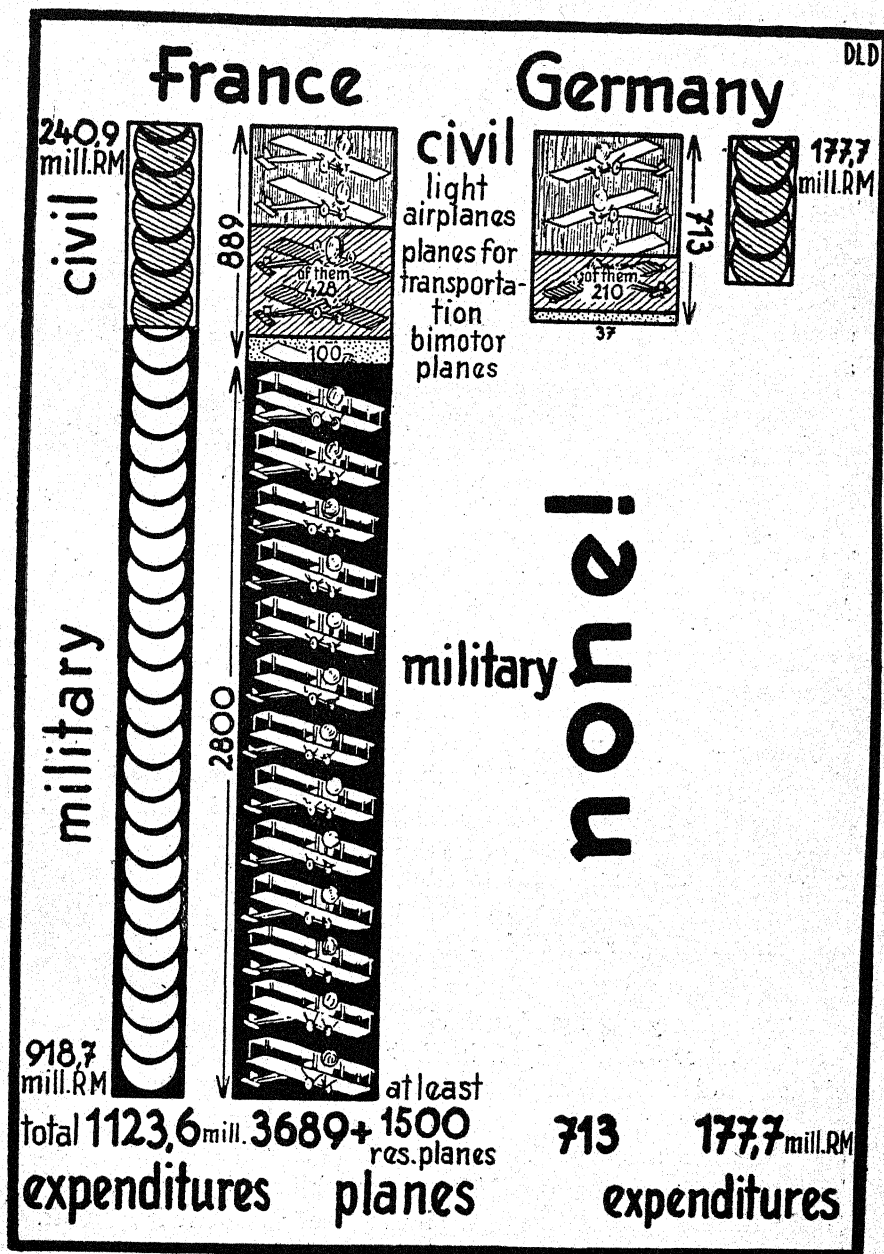
As to France, these conditions have been fully met, while they do not apply to Germany at all. Neither has Germany a strong navy, nor any overseas naval stations. Besides, as compared to France, her maritime situation is very unfavourable. Germany has no free access to an ocean. Moreover, she has not the necessary supply of guns to arm her merchant ships in case of war. **Equipment and use**

GERMANY

merchant marine without
any preparations for
use in war



Navies and merchant marines in France and Germany



none!

The French air force and German civil aviation; expenditures of each within the last four years

of guns in the German navy were regulated to the minutest details by the Treaty of Versailles. The stock of guns allowed is so limited that it hardly suffices for her small navy and for coast defence. Besides, the guns are in each case immovably set. The construction of reinforced decks is prohibited by the law on war equipment, of June 3d, 1927, forced upon Germany by her wartime opponents. This law forbids the building of any merchant or passenger ships adapted for use in war. Reinforcement of decks is allowed only upon such merchant ships as are built, rebuilt, or repaired in Germany on orders, or on account, of foreign countries, and intended for export as soon as finished.

The German merchant marine, then, has no military value whatever. The French merchant marine has. It must, therefore, be rated as an asset of France's „*potentiel de guerre*“. The German merchant marine has nothing whatever to do with the idea of „*potentiel de guerre*“. The same thing is true of German civil aviation, in the first place for the simple reason that, in general, civil air planes cannot be credited with anything like military value. Even according to French opinion, light air planes (below 75 hp.) and other sporting planes with more than 75 hp., cannot be considered for war purposes. Passenger planes, however, would not only have to be armed but completely reconstructed since their construction is absolutely different from that of military planes. They must be equipped with military aircraft bodies, stronger motors, and different planes. All that requires a supply of correspondingly prepared material; it takes much time and money, while the serviceableness of such reconstructed civil air planes does not nearly approach that of real war planes. They are deficient in speed, rising ability, gun range, and mobility.

The military quality of such civil air planes is described by the English author J. M. Spaight, in his book „*Pseudosecurity*“: „The efficiency of military airplanes is so superior that reconstructed merchant air planes are worthless“. The president of the French commission on aviation, Colonel Brocard, during the war an expert leader of chaser squadrons, said in the French Chamber, in December 1928 (referring to reconstructing civil air planes): „Do not forget that, in order to do that one must diminish the speed of an air plane, change its fuselage in all directions, decrease its rising ability, thereby making the whole air plane more vulnerable. If I had the honor to command pilots fighting against such a reconstructed merchant aircraft, it would be a magnificent thing: The reconstruction of our merchant

air planes would be a bad thing, from whatever point of view you may look at the question."

If, consequently, civil aviation in general cannot be considered a factor in the „*potentiel de guerre*“ of a country, this is particularly true of German aviation. Germany being forbidden any kind of military aviation, cannot give her civil fliers a military training. Germany is further forbidden to keep a store of prepared material for reconstructing merchant planes. Finally, the number of passenger machines at all suitable for reconstruction is extremely small. Of the 713 civil air planes, at present in the possession of Germany, there are only 210 passenger or freight planes of the professional aviation system (Luft Hansa and Bayrische Luftverkehrs A. G.). Among those again there are only 37 air planes with two or more motors and a capacity possibly suitable as bombcarriers for large distances. The other 503 machines are either really light air planes below 75 hp. (277), or sporting air planes above 75 hp. (226). The military quality of civil aviators not militarily trained is most clearly brought out by the French law on recruiting air forces. It provides a longer, not a shorter, period of service (18 instead of 12 months), for such young men as have been trained as civil pilots before their enlistment, so as to impart to them the information necessary to pilots of military air planes.

All that goes to show that neither the German merchant marine nor German civil aviation are factors of „*potentiel de guerre*“. If they are, as France claims they are, French civil aviation is vastly superior. For, according to the official statistics of the French Minister of Aviation, in the spring of 1930, France possesses 2800 war planes and a numerous, first-class, trained personnel of military air plane pilots and observers. Of her 889 civil planes there are 428 passenger and freight planes. The number of multiple-motor civil air planes in France is many times as large as in Germany.

France, therefore, does not only have an enormous military air force totally lacking in Germany, but is also vastly superior as regards civil aviation, in every respect. What do the few German merchant planes amount to, even if they did have a great military value: What do they amount to, considering the additional fact that in case of war with France, Germany very likely would not only have to meet the French air force alone, but the air forces of France's allies in Eastern and Southeastern Europe!

X.

Finances

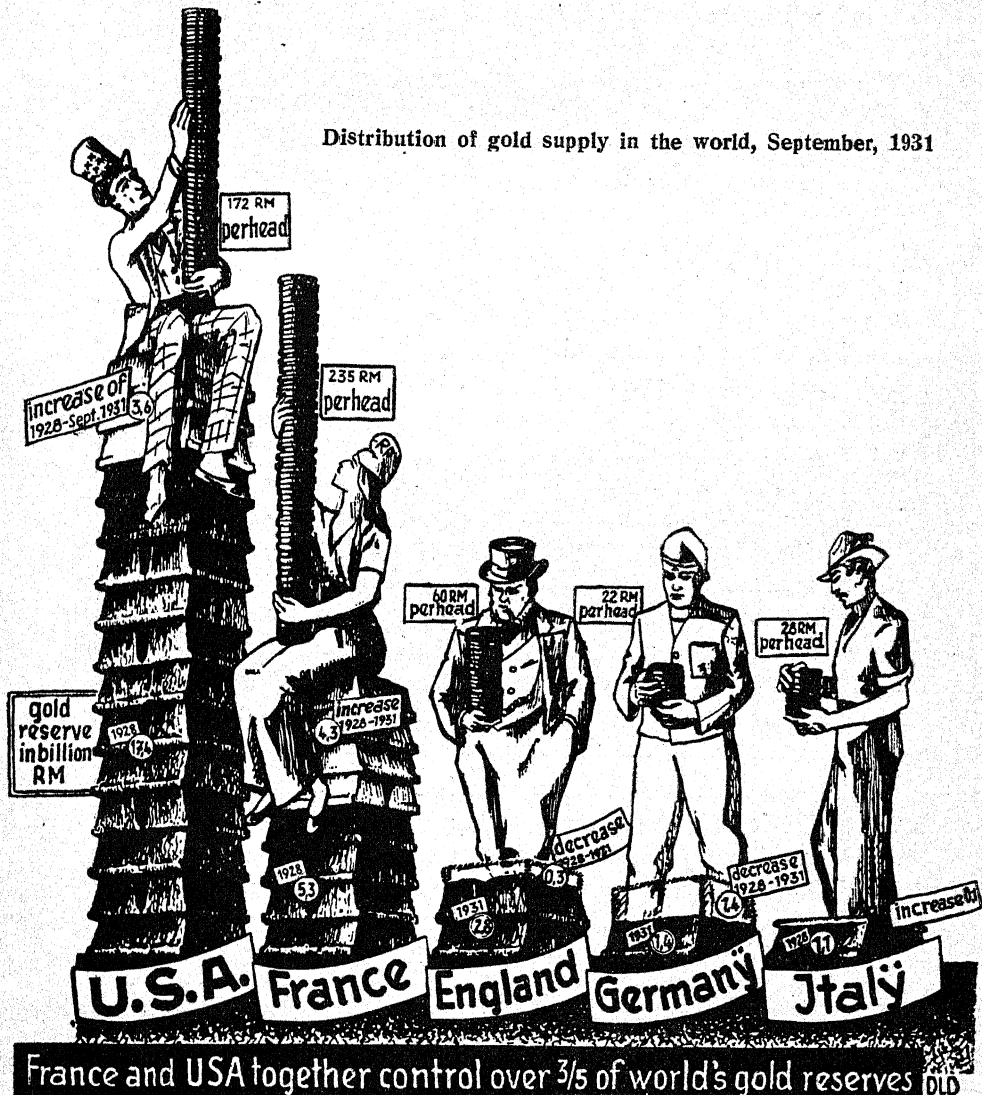
In view of what the world is experiencing at the present time, it need not be especially emphasized that gold is a prominent factor of power in the political life of countries and nations and that it must be correspondingly valued as a „potentiel de guerre“. It is this value that makes the financial condition of both countries an especially important factor in judging the „potentiels de guerre“ in Germany and France. The state of affairs in this regard is known.

According to the account of the Bank of France, of January 8th, 1932, France today has in the vaults of the **Bank of France a gold reserve of over 69.3 billion francs**, i. e., approximately 12 billion gold marks. She controls, therefore, more than one fourth of the entire amount of gold kept as security in the banks of the world, which amount was estimated at 42 billion goldmarks, by the American Federal Reserve Board, at the beginning of 1931. The French gold reserve today is surpassed only by the American gold reserve, by about six billion gold marks. This sum of six billions means very little, considering the fact that the United States have a population of 120 millions as over against not quite 42 millions in France. In the United States the quota is 137 gold marks per person, in France 250. France is, consequently, at present the strongest gold power in the world, not as regards the absolute amount of gold reserve but as regards its relative distribution. Her gold reserve, 3.3 billion goldmarks at the conclusion of peace, has since almost quadrupled; since 1928, with then 4.8 billions, it nearly trebled; and since July 1931, with then 9.3 billion gold marks, it nearly trebled again. In other words, considering the fact that the total gold production of the world is only 1.6 billion gold marks annually, France absorbed actually all gold produced during the last few years. Her Gold-Tower is three times as high as that of England! Her circulation of notes, about 84.9 billion francs on January 8th, 1932, was covered by gold 90 %. If about four billion francs of foreign exchange held by France are included, the notes were covered over 100 %. The reserve of gold and foreign exchange in the Bank of France is about four times as large as that of the Bank of England and of the Reichsbank put together.

As has been said, all that money rests in the vaults of the Bank of France. Although economically sterile, it gives France in these turbulent times a **fighting-and-war-fund** such as cannot be imagined

more perfect from the military point of view. But this is not all of France's enormous wealth. France has **in addition big claims abroad**, created by her clever policy of stabilisation, estimated at about three billion gold marks, today. The majority of them are invested in short-term credits, only a small part of them are invested in long-term credits, mainly in the countries of Eastern and Southeastern Europe allied with France. They not only yield a substantial amount of interests, but give France an **instrument of political power** the signi-

Distribution of gold supply in the world, September, 1931

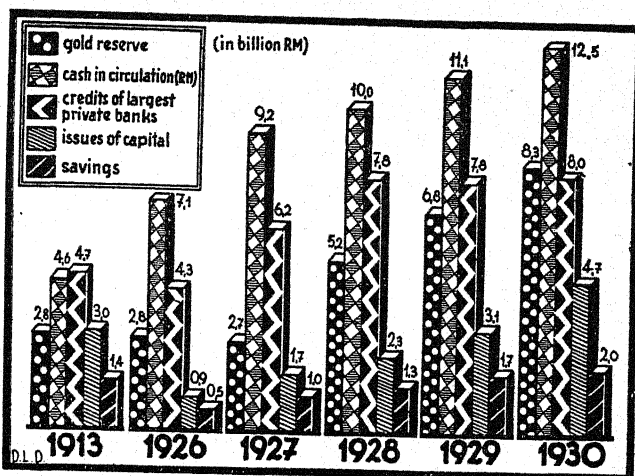


finance and effectiveness of which are impressed upon the world again just now. There is no financial transaction of any importance possible in the world today without France taking part in it in some way, directly or indirectly.

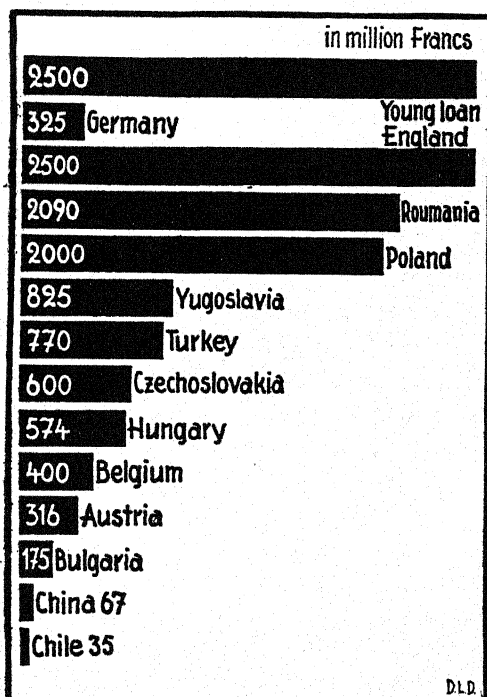
It is France that controls the international money market. France today has the financial key-position; she is the financial dictator not only of Europe but of the whole world. To what degree this is the case, has been shown by events and political developments since July 1931. For detailed information we refer to the recent book by the noted British financial expert, Paul Einzig, „Behind the Scenes of International Finance“ (Macmillan & Co., London, publishers). Her enormous wealth of gold and the quantity and quality of her foreign claims, enable France not only to keep her present allies politically dependent, but to make more and more countries dependent. France is in the position to disturb, by calling her credits, economic conditions in other countries, even throughout the world, as is the case now. Even a threat in this respect is sufficient to prevent any independent action disagreeable to France.

France can interfere with, or even influence at her own discretion, all important developments of world politics, either by withdrawing credits, or by granting loans, or by transfer of capital. She can secure a decisive influence upon important fields of production throughout the world, by investing her capital, thus, owing to her immense money power, creating ever new foundations for her political power. To what an extent this is really done may be judged from the French money policy in Eastern and Southeastern Europe and from the French gold war against Germany, Great Britain, and America. In this connection it is not uninteresting to read reports concerning the proposed construction of a 200 kw giant radio station in Luxemburg, with French capital, for the purpose of promoting French interests by means of broadcast propaganda.

Thus France's enormous wealth is a firstclass source of power to her. It is today another „grande armée“, which enables France to obtain without bloodshed what otherwise could only be got by a bloody war. **At the same time, France can, owing to her money power, prepare for war with a perfection practically unique.** France is not subject to financial difficulties in developing her national defence and in training her army. She can, on her eastern and southeastern front, surround herself with a girdle of fortifications really gigantic in extent. She can at any time increase her military forces by a strong contingent of reserves, train them for war in big



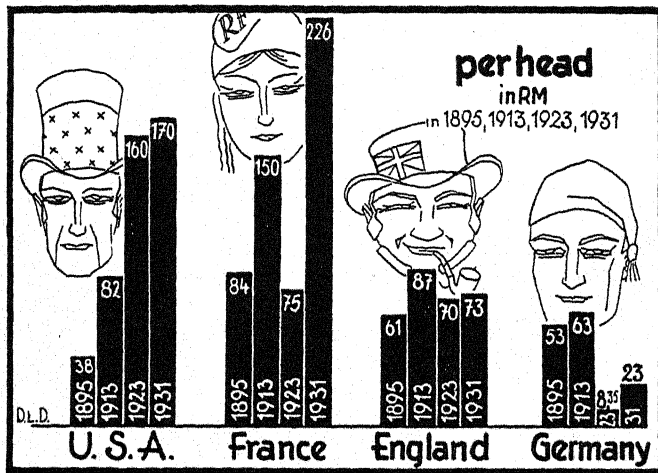
French capital market



French loans, 1919—1932

manoeuvres on land and sea, and in the air, and not only give them a thoroughly modern equipment of arms and other war material, but constantly develop the technical perfection of that equipment.

France can subsidize her armament industry and keep well equipped and well armed auxiliary troops in the armies of her allies in Eastern and Southeastern Europe. She can store up, in peacetime, essential rawmaterials she needs, in her own country, thereby doing everything to secure her national defence for the case of war.

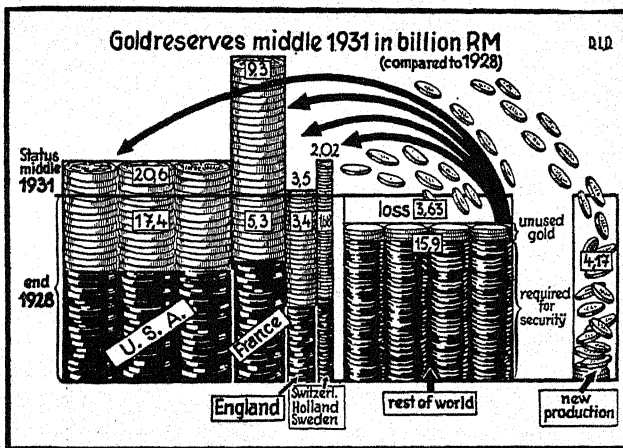


France, country richest in gold

Germany cannot do anything of the sort. As in former years, she had, in 1931, to go without extended manoeuvres, and in this year she had even to give up all army exercises on a smaller scale, except within the narrow limits of the several garrisons. Her financial difficulties force her to most extreme economy even in questions of national defence. It is the very opposite of the situation of France.

Germany, which in 1913 possessed about 20 billion marks, in 1923 still about 3 billion marks in foreign investments, is today, in contrast to France, distinctly **a debtor country**. At the end of June 1930, according to a summary of the Federal Office of Statistics in „Economics and Statistics“ („Wirtschaft und Statistik“), Germany's foreign indebtedness amounted to about 17 billion marks, which means a decrease by about 37 billion marks in national wealth for the same period. This decrease in wealth means, at the same

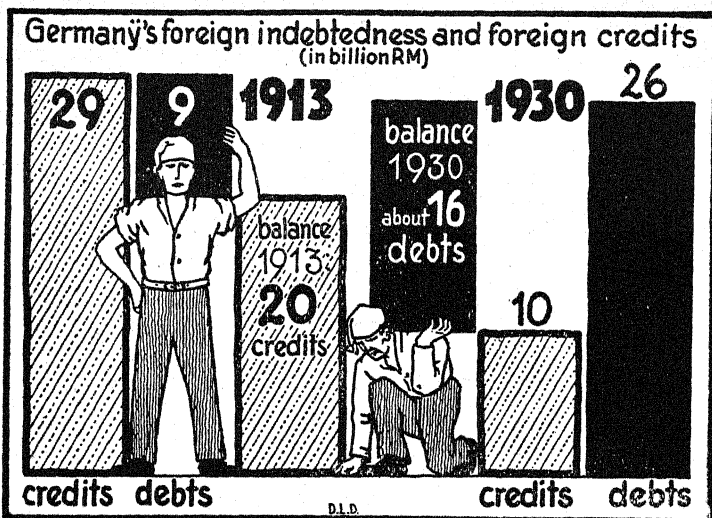
time, an extraordinary deterioration of the German balance of interests. While Germany, before the war, drew an income of at least one billion marks of interests annually from her foreign credits, she had, by June 30th, 1930, to pay for her foreign debts about 1 to 1.5 billion marks, i. e. including war tributes, about 3 billion marks annually to foreign countries. Between 1913 and June 30th, 1930, the German balance of interests had turned against Germany by about 4 billion marks. Worse still, by far the larger part of Germany's foreign indebtedness — about 11.3 billion marks on June 30th, 1930, — is



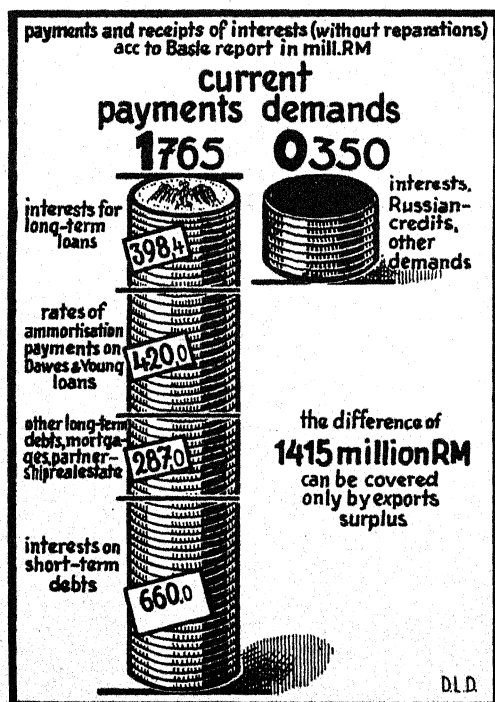
Whither gold and money flow

in the form of short-term credits. Besides, only a small fraction of that, about 5 to 5.5 billion marks, really benefited German business. By far the larger part of the money was kept abroad. It had to be used for the payment of war tributes, interests, and commission fees to foreign banks. It seems no exaggeration, if, for the period from 1924 to 1930, the profits of the international banks from the credit and tribute business with Germany are estimated at about 1.5 billion marks.

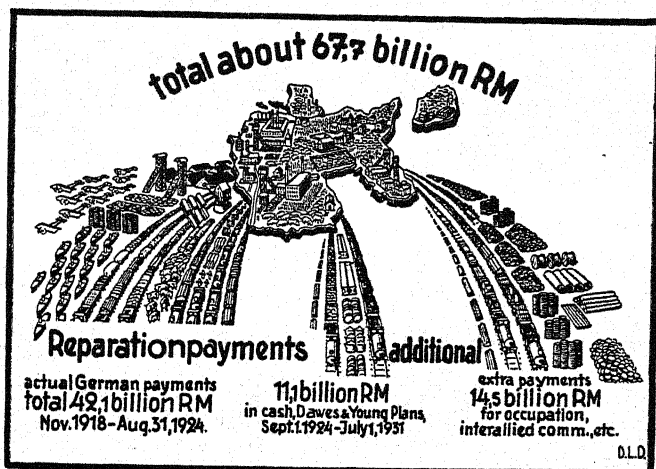
All these figures (and recent data would, too,) characterize better than many words could, Germany's present financial condition and its enormous disproportion to the financial condition of France. France is the richest country on earth, with large foreign credits and corresponding interests; Germany, a country impoverished in the extreme, with much larger foreign debts. France has an armament



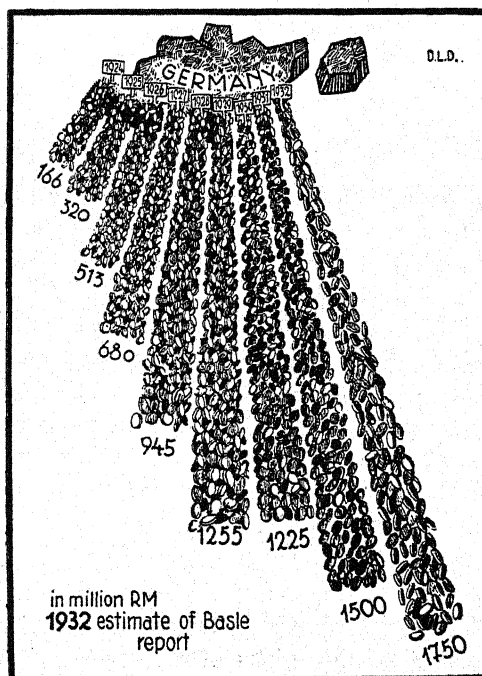
Once creditor, now debtor



Germany's balance of indebtedness



Germany's reparation payments



Germany's payments of interests to foreign countries, 1920 to 1929

for war, powerful from the military and financial point of view; Germany, instead of all that, an economic system with the hangman's rope of short-term credits tied around its neck, breathing its last. Such is the „*potentiel de guerre*“ of both countries as regards their finances.

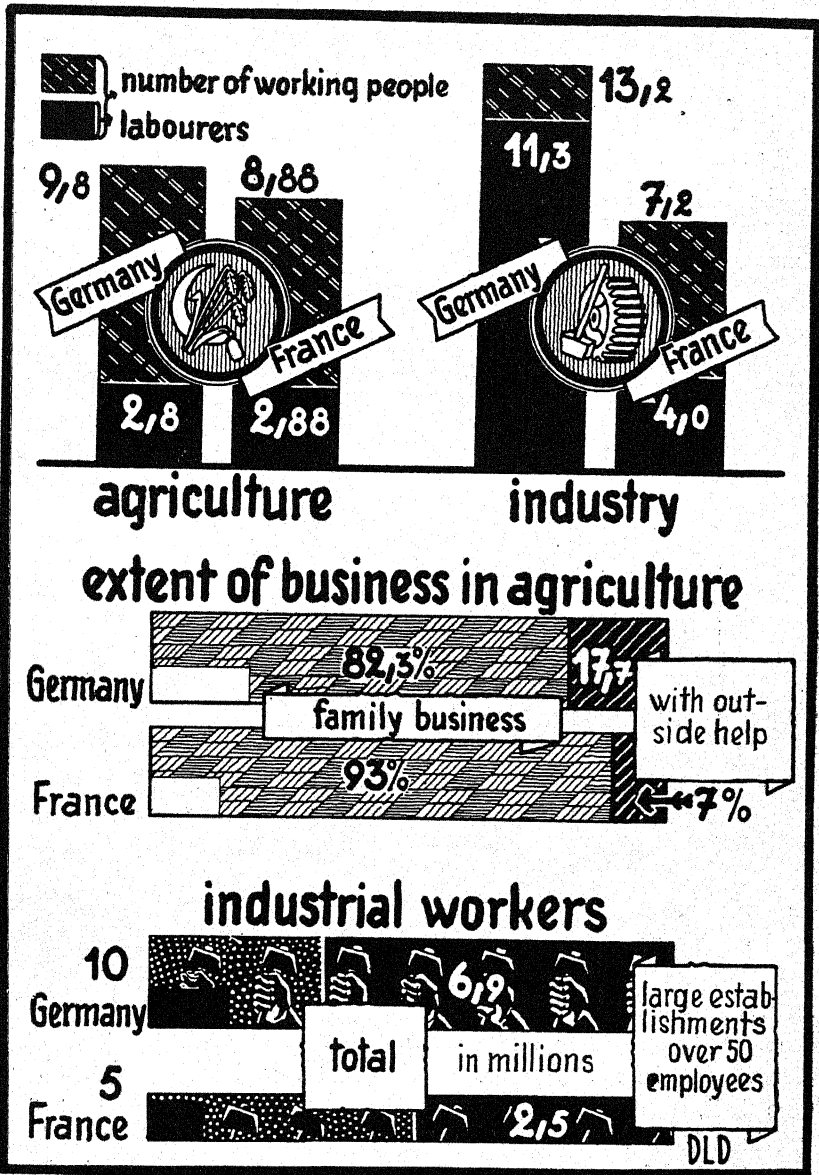
XI.

Social structure

The characteristics of Germany's social condition are these: the middle classes dying out; the masses impoverished and being proletarianized. In France: a broad, homogeneous stratum of bourgeoisie; a proletariat small in proportion to that of Germany. In Germany an appallingly large unemployment; in France, compared to Germany, a very low figure of unemployment.

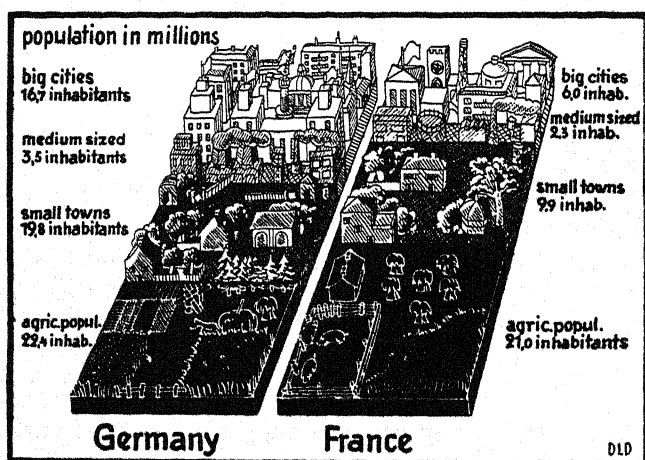
France is, to use the words of the French sociologist and economist André Siegfried, in her social structure a country of real-estate owners, mechanics, and petty bourgeois. It is a country of the so-called „*classes moyennes*“, a country of petty capitalists and petty property owners, of small establishments and family businesses. To what degree this is true, is best shown by the following figures, based upon the last French census of professions in 1921. In 1921 there were, of 2 597 817 agricultural establishments, 1 233 234 without labourers, i. e., pure family properties, and 1 322 244 with one to five labourers. Only two farms had more than 200 labourers. Similar conditions prevailed in industry. Of 556 000 establishments in all, there were only 12 000 with more than 50 employees and workmen each. Both in agriculture and in industry, then, the number of small establishments prevailed by far. Correspondingly low was the number of labourers. In agriculture it was only about three millions out of a total of about nine million persons employed; in industry 4.03 millions, 774 000 of whom were employed in establishments of more than 500 labourers.

This social organisation of France has not essentially changed since. The number of independent farmers and trades people still surpasses by far the number of workmen employed in agriculture and industry. Of the latter, a large number are foreigners who may be sent home any time in periods of crisis. Furthermore, French labour is largely very conservative. France, consequently, neither possesses an organized, class conscious, proletariat of real importance, nor a problem of unemployment at all comparable to other big



Social structure of Germany and France

countries. André Siegfried estimates the number of French labourers regularly organized in trades unions at scarcely more than one million. Thus the „classes moyennes“ constitute the principal foundations of the French State. It is they that dominate society, business, and politics. Only in a few of the great industrial centres in the north and east does one find a proletarian class consciousness. Only there it is that Marxian radicalism has adherents. But even socialism in France is of a strongly pronounced bourgeois character. This is true especially of the south and southwest where its voters largely

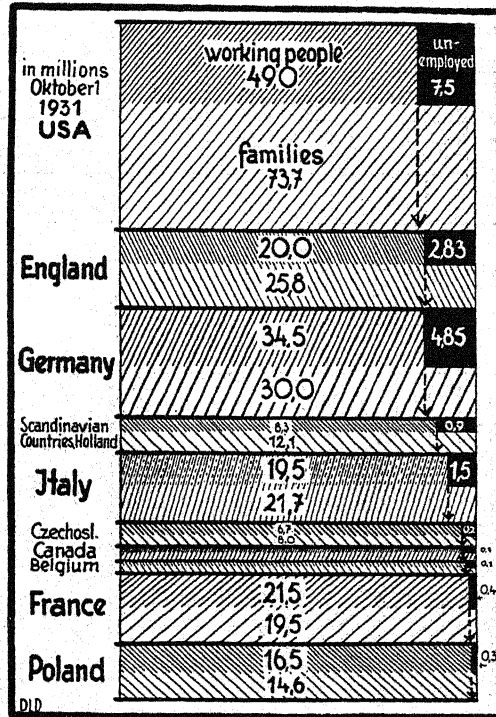


City and country in Germany and France

come from. Socialism, there, is nothing else but the party of peasants and workmen living the lives of petty bourgeois.

Conditions in Germany are essentially different. To repeat, in contrast to France, Germany is an industrial country, far more than an agrarian one. According to the last census of professions, in 1925, there are, of about 64 million inhabitants, about 32 millions, i. e., one half, professionally engaged (not counting house-wives and mothers in households of their own). Their number increased by about 5.7 % in a Germany much smaller today than it was in 1907, when a census of professions was taken. This means an extremely serious encumbrance of the German labour market and of German business. Both are compelled to produce work and wages for a much larger number of people than before the war. This encumbrance appears the greater, as nearly one half, 45.1 % to be exact, of all

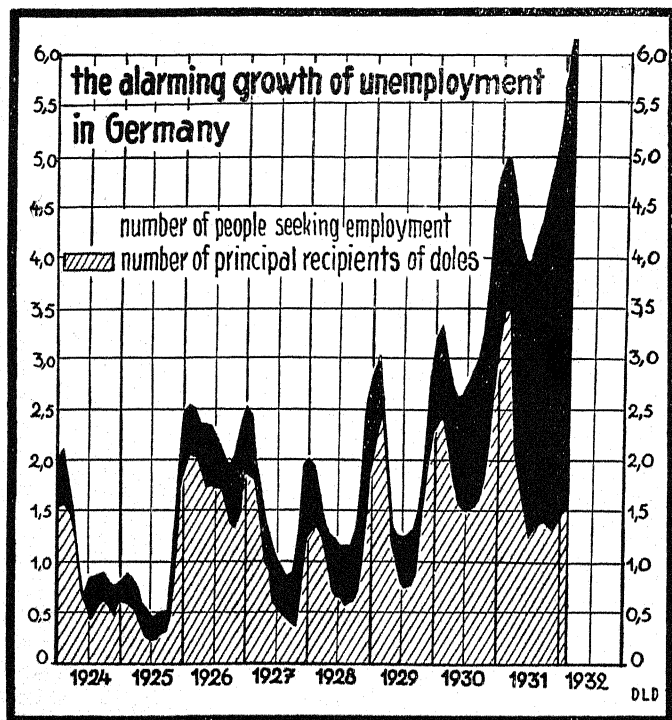
people professionally engaged (considering the men alone, even 53 %) belong to the category of labour, while only about 17.3 % are in the so-called group of independents who are made up of such persons as bear the characteristics of an economically independent management of an establishment. Their number was about 5.5 millions in 1925, while the total number of workmen was 14.4 millions, 9.8 millions of whom belonged to industry.



Unemployment in the world

In contrast to France, the number of labourers in Germany exceeds by far the number of independent business people, a class considerably reduced as over against the status of 1907. While this reduction is to a certain extent neutralized, from the standpoint of social structure, by an increase in the number of employees and officials, that increase has not been strong enough to prevent a serious weakening of the so-called middle classes. The middle classes consisted of many small business men and artisans, members

of the „free professions“ (lawyers, doctors, writers, artists, &c.), and large numbers of officials and employees. For, the total number of labourers, too, increased appreciably since 1907, in industry alone by 2¼. millions, or 30 %, in trade and transportation by half a million, or 63 %. **Consequently, the social organisation of the German people has undergone a considerable regrouping downward, since 1907. The German people is in the process of increasing proletarianisation.**



Unemployment in Germany

Its social status deteriorated to an extremely serious degree within the last two decades.

This lowering of standard is all the more critical as it is not limited to a regrouping of the social organisation, but is simultaneously accompanied by unemployment of an extent met nowhere else in the world. Germany, today, has about 5.6 million unemployed. This figure has been rising, since 1925, actually by leaps and bounds. On August 1st, 1925, there were in all only 197 198 persons dependent

chiefly on doles. That number rose to nearly 1.5 millions by **January 1st, 1926; to more than 2 millions by February 1926.** It nearly trebled in the succeeding years. Nor can the upward trend be considered finished. In view of such figures it does not mean much, if, according to the reports of the French Ministry of Labour, the number of unemployed in France should really be 350 000 or even twice as many. France is, after all, the only great country which, during the whole post-war period has not had to suffer in her own people from unemployment on a really large scale. On the contrary, she constantly needed for her business several million foreign labourers in order to be able to live. During the post-war period the number of foreign labour amounted at times to 3.5 millions, i. e., more than 10 % of France's entire working population. Even 700 000 unemployed are not a serious problem in view of the fact that, for instance, in the North French coal mining district alone, 80 % of the total crew are Poles, while in the building trade there are 50 Italians in every 100 workmen.

Consequently, what has been said of the other factors of the „*potentiel de guerre*“, is true also of the social structure in Germany and France. In this case, too, France is in a far better situation than Germany. The effect upon the „*potentiel de guerre*“ in each country need hardly be further explained. Consider, for one thing, the enormous encumbrance of Germany's national economics and policy by the millions of unemployed; furthermore, the influence of favourable or unfavourable social conditions upon national politics and, therefore, upon national defence. But this will be the subject of the next chapter which is to discuss the political situation of France and Germany.

XII.

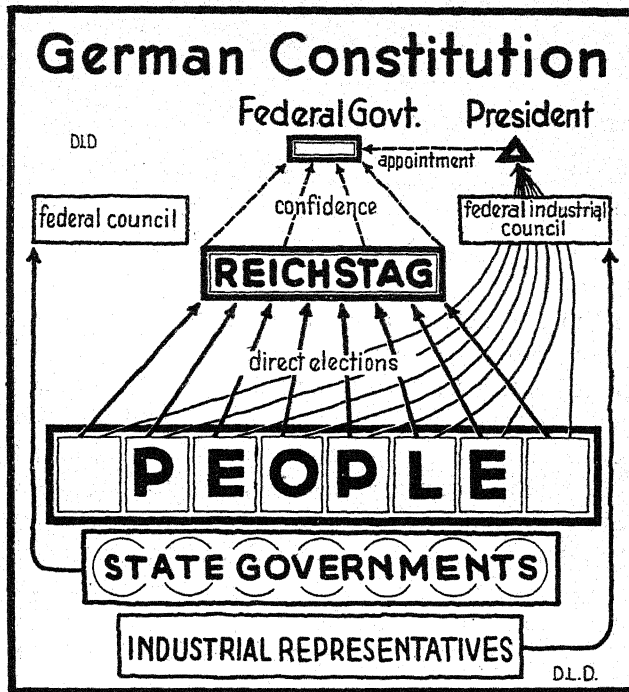
Political structure

The political character and the degree of stability of its inner organisation are the decisive factors in estimating the political condition of a country as a „*potentiel de guerre*“.

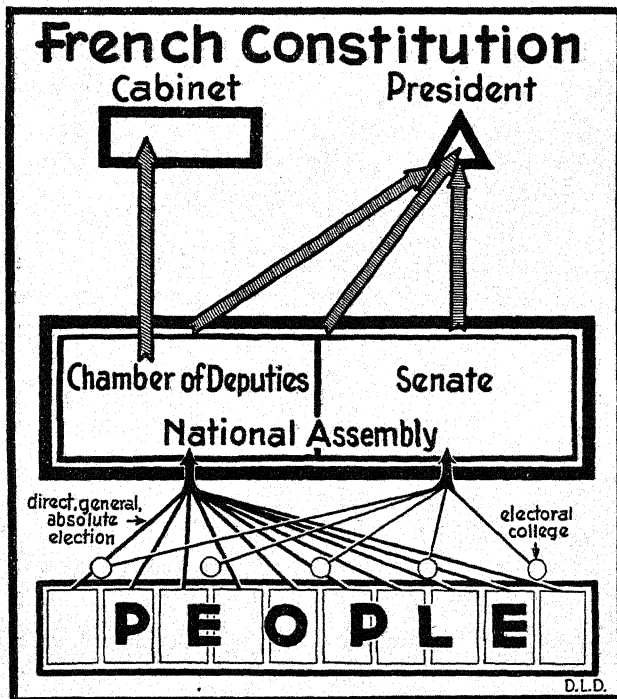
As to their constitutions, both Germany and France are republican commonwealths, governed by parliamentary methods. Nevertheless, they are fundamentally different as regards their intrapolitical character. Germany's political structure is pronouncedly federalist and decentralized. Germany is a union of eighteen states. These are held together by racial and national uniformity, by a

common federal constitution, by a common head, the Reichspräsident, by a common government and representation, the Reichsregierung and the Reichstag. On the other hand, each state has its own republican constitution, administration, and state parliament. Besides, **Germany is internally greatly differentiated by numerous contrasts**, tribal, cultural, and social, as well as by the diversity of her religious life — 62.8 % of the German population are protestants, 35.8 % are catholics. All that means an extraordinarily serious encumbrance of Germany's entire political life. This encumbrance is all the more serious as Germany has been united only since 1871, while its present political organisation only dates from 1918, an organisation today still vigorously contested. There is hardly a single German absolutely satisfied with its foundations. Many groups even protest and fight it. Others consider it at least in need of a reform, while they are not at all in agreement as to the necessary methods. The political structure of France is entirely different.

The intrapolitical character of France is best characterized by the four words „république une et indivisible“. **France** is at present **the most perfect embodiment of a centralized national state in all Europe**. Her entire structure of administration is uniform and strictly centralized to the last detail, the administrative and governmental methods are evenly and clearly systematized; the character of the people, the organisation of society, culture, customs and religion, are uniform and, except for the German population in Alsace-Lorraine free from foreign elements in the national body. Although the inhabitants of Dauphiné, Normandy, or Bretagne may pride themselves with a mode of living of their own, as compared with inhabitants of the Isle de France; although character and language of the Northern French may have certain differences from those of the Southern French, possibly conscious to both parts of the people, those differences are not great enough to cause national or tribal frictions and to endanger the unity of state and people in any way. France knows of no particularism or dualism worth mentioning — regionalism, more strongly felt since the war, has different foundations —. She is therefore **spared the immense waste of strength particularism and dualism cause to Germany**. She is, above all, free from the motley and chaotic multiplicity of authority which, in the form of a federal government and of eighteen state governments, determines the intrapolitical character of Germany, increasing so very much the various elements of inner friction. There is only one national authority. That authority lies in the hands of the central



The German Federation of States

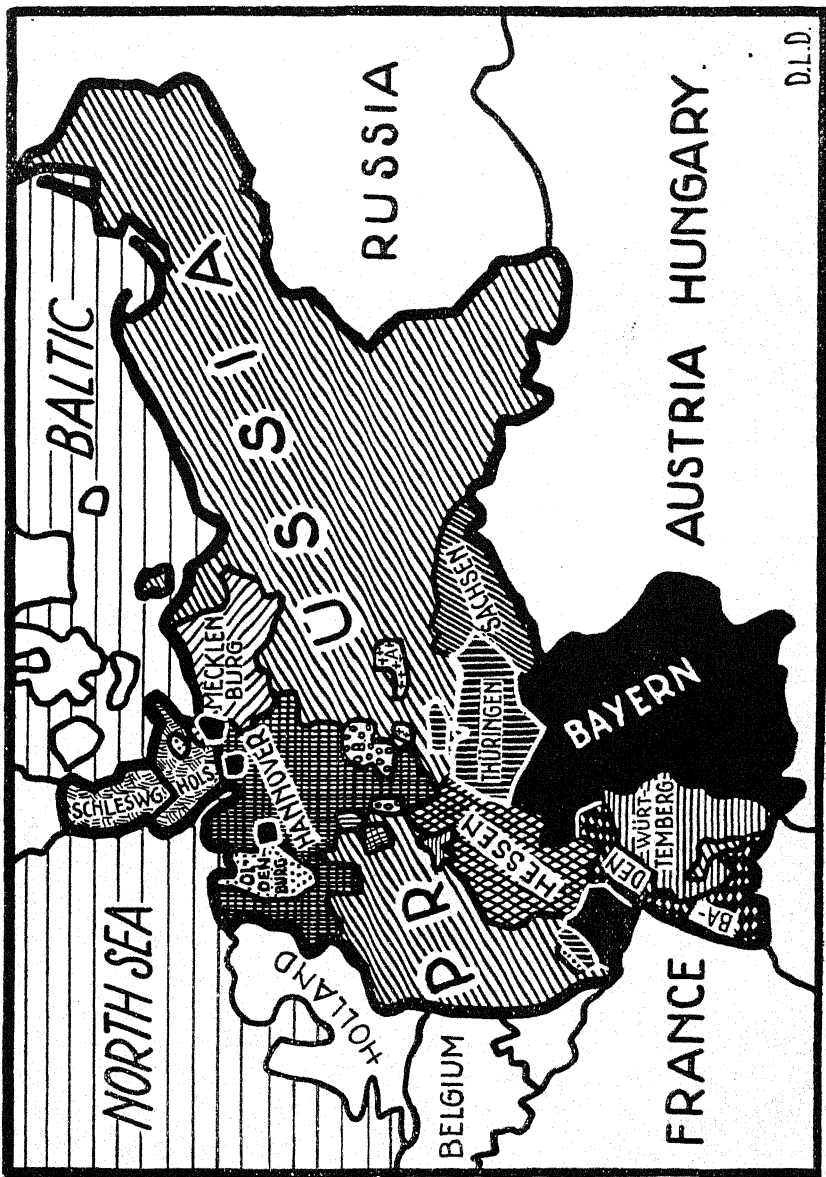


The French centralized State

government in Paris. It rules every commune of the country and is controlled only by parliament (Senate and Chamber). The Departments and Arrondissements are merely districts of federal administration without anything like home-rule autonomy. There is some autonomy within the communes, but even there only to a limited degree.

The intrapolitical character of France is therefore of much greater uniformity and internal stability than that of Germany. This fact is all the more important for the valuation of its „*potentiel de guerre*“, as it is not accidental but founded upon geographic and historical conditions. Germany is extremely rich in individual geographic forms and landscapes because of her high, compact hill-ranges which, obliquely shaped approach one other either from southwest to northeast, or from southeast to northwest, and also because of the great diversity of the Central German mountain slope. Germany's topography, to use the words of Friedrich Ratzel in his book „*Deutschland*“ (new edition by Erich von Drygalski, Walter de Gruyter & Co., Berlin-Leipzig, publishers) has no centre, no core around which everything is grouped, to which everything is subordinated. France, however, in the Paris basin, possesses such a geographic core and central landscape. She has a much more simple geographic structure. Her mountains are crowded together in the Central Plateau. This Plateau is only a moderately high hill country which, pushed into the southeast corner of France does not disturb the uniformity and compactness of the French landscape. Besides, it can everywhere be circumvented easily and is no less easy of approach, except for its steep inclination toward the Rhône.

Those differences in the geographic conditions of Germany and France were naturally not without a profound influence upon the historical, political, and cultural development of the two countries. In Germany, the growth of a uniform civilisation and a uniform state organisation met with the greatest obstacles so that, to the present day, it has been impossible even to approach the perfection of unity enjoyed by France. The diversities of topography, on the contrary, encouraged decisively the political disunion of Germany and an individual development, political, and cultural, of the various districts. On the other hand, the concentric arrangement of the French territory, as well as the lack of natural barriers, really worth mentioning, in the interior, pointed from the very beginning to political concentration. A close natural coherence among the individual landscapes had been created, constituting a natural basis, upon which, at an



Aspect of political conditions in Germany, 1860

early period, civilisation and political organisation could develop toward unity.

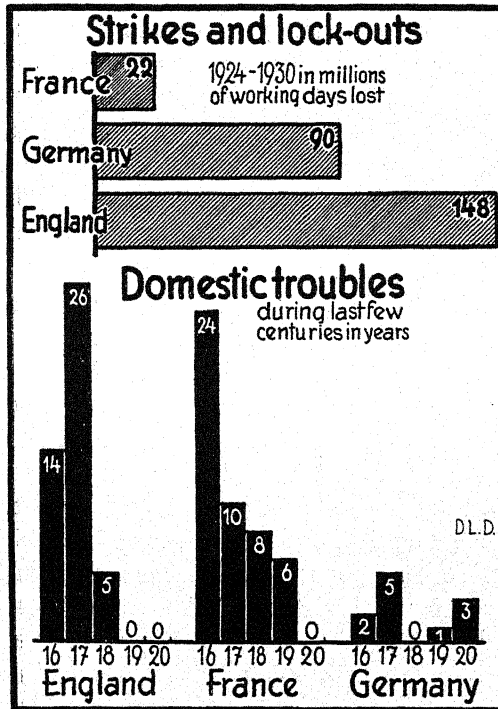
The strict political centralisation of France is, consequently, based upon her **topographic character** to a considerable degree. At the same time, it is the result of a long historical development, begun long before Louis XIV, continued in the French Revolution, concluded in the Third Republic. France was a definite political unit, hundreds of years, before Germany even thought of such an idea. Moreover, the French are, in general, satisfied with their political organisation, at least they submit to it. France, being the home of parliamentary government and favoured by her geographic position and social structure, is **far better protected from the influence of foreign political movements than is Germany**, where at the present time three of the most modern political and philosophical movements are engaged in a struggle for supremacy. This, too, gives the political situation in France a far greater stability than Germany has. It guarantees to France a much more even political development. **Communism**, e. g., plays only a subordinate part in France, both as regards power and numerical strength.

The numerical strength of the Communist Party of France was stated to be 52 376 organized members, in a report, 1928, by the executive council of the Communist Internationale to its sixth World Congress, at the Brussels Congress of the Socialist Labourers' Internationale. That number, no doubt, has been greatly reduced since, according to statements, in January 1931, by a few Paris city aldermen who had left the party. In the present French Chamber the Communist Party has only 14 representatives out of a total of 613, as over against 27 representatives in 1924 out of a total 28 smaller than now.

The French petty peasant and petty bourgeois whose lives circulate exclusively around property and family, are averse to communist experiments. They are, even when socialists, of a fundamentally conservative bent of mind. That does not, however, exclude the possibility that there may be considerable social conflicts even in France, expressing themselves from time to time in the form of strikes and riots. Wherever they happen, though, it is in most cases not so much property and wealth in themselves that are the cause, as the distrust of the lower classes that property and wealth be abused for political purposes. In Germany, on the other hand, the Communist Party has 77 mandates in the Reichstag out of 577 delegates, as over against 54 in 1928. At the last Reichstag elections,

in September 1930, there were about 4.6 million communist votes favouring a soviet government in Germany on the model of Russia.

The French State, taking everything into consideration, consequently, has not nearly such serious domestic difficulties to contend with as Germany does. **France is incomparably easier to**



France's stabilized domestic condition;
Germany's unstable domestic condition

govern and to keep united than Germany. For this reason France is in the position of asserting her entire strength and power largely in her foreign policy. Germany cannot do so. She is influenced by intrapolitical considerations and difficulties far more than France is. Germany, in consequence of her intrapolitical situation is an „inhibited Great Power“, very much inferior to France in this factor of the „potentiel de guerre“. This inferiority gains in importance by a close study of the national psychology of the two countries.

XIII.

National character

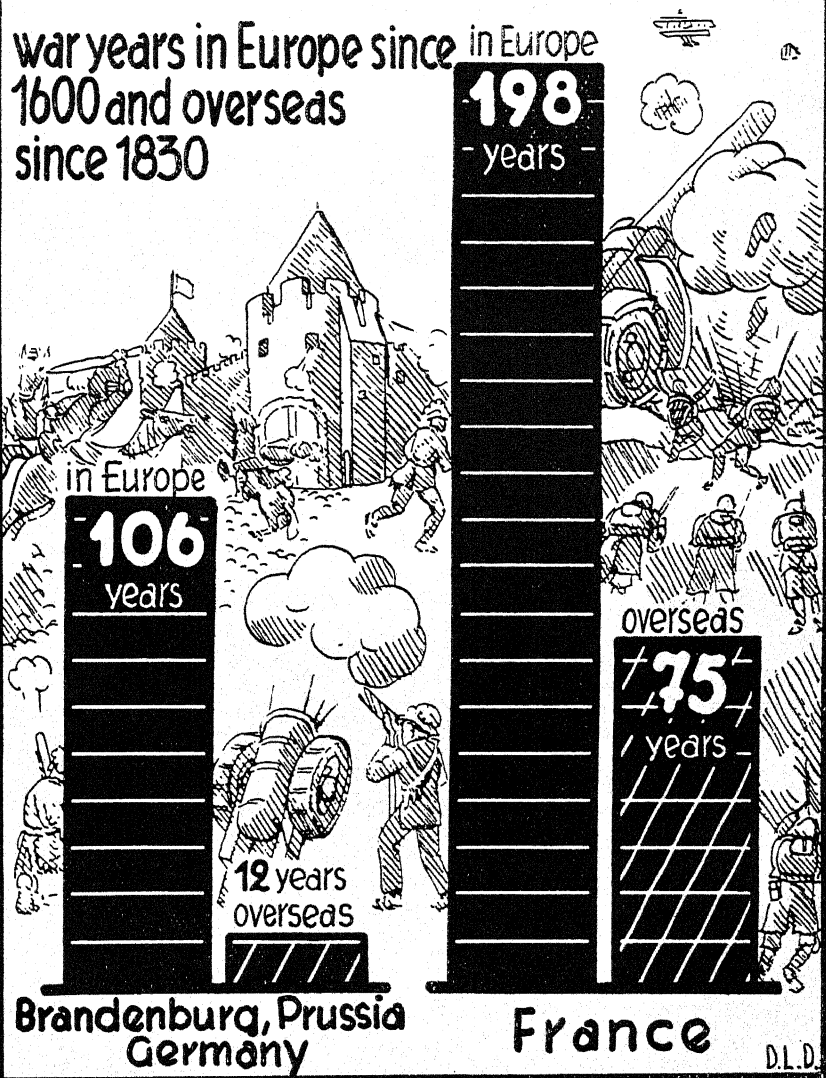
The World War demonstrated once more the fact that both the German and the French nations are distinguished by military ability. As in former wars, they fought against each other in the World War with a bravery, nay with a heroism, achieving martial successes hardly equalled by any other people in the world. The question to be investigated here, consequently, has nothing to do with a comparison of the military inclinations and qualities of the two people, nor with a detailed and complete account of their national character. Our question is, whether, and in what direction, their undoubted **military efficiency is influenced by other peculiarities of their character**, and whether, and to what extent, this results in a plus or a minus in the „potentiels de guerre“ of the two countries.

The large majority of **Germans** are, in their natural inclinations, absolutely pacific. While their surface is often rough and crude, they are essentially soft-hearted and good-natured and, therefore, despite a great military ability, rather unmartial than martial. The Germans can neither really hate, nor bear a grudge for any length of time. They forget quickly and easily wrongs inflicted upon them, as is proved by the two instances of the Ruhr invasion and of the use of colored troops in the Rhineland. At the same time, they are imbued with a high idealism and appreciative of any kindness shown to them. They are easily inspired, unsuspecting, trusting, full of ideas, and gifted with imagination. All these qualities are certainly far from being bad. They are, on the contrary, excellent, as long as they do not grow beyond the sphere where they belong by right; as long as they do not cover up the harsh reality of things but combine with reason and harmonize with the world of facts. These conditions, however, are not met by a large number of Germans, at least not so fully as necessary. For this reason it is that much of what is good and noble from a purely human point of view, becomes so easily and so frequently the source of misfortune for the German people.

Their high idealism and their deep human feeling tempt many Germans to pursue ideas and phantasies the realisation of which is directly contrary to any possibilities. There are even many Germans who, for the sake of such ideas and phantasies, do not shrink from sacrificing their own nationality and from throwing overboard like old rubbish, what had been dear and sacred to them, just because they think that, in doing so, they can serve mankind at large and

Number of years of war in Europe and overseas

war years in Europe since 1600 and overseas since 1830



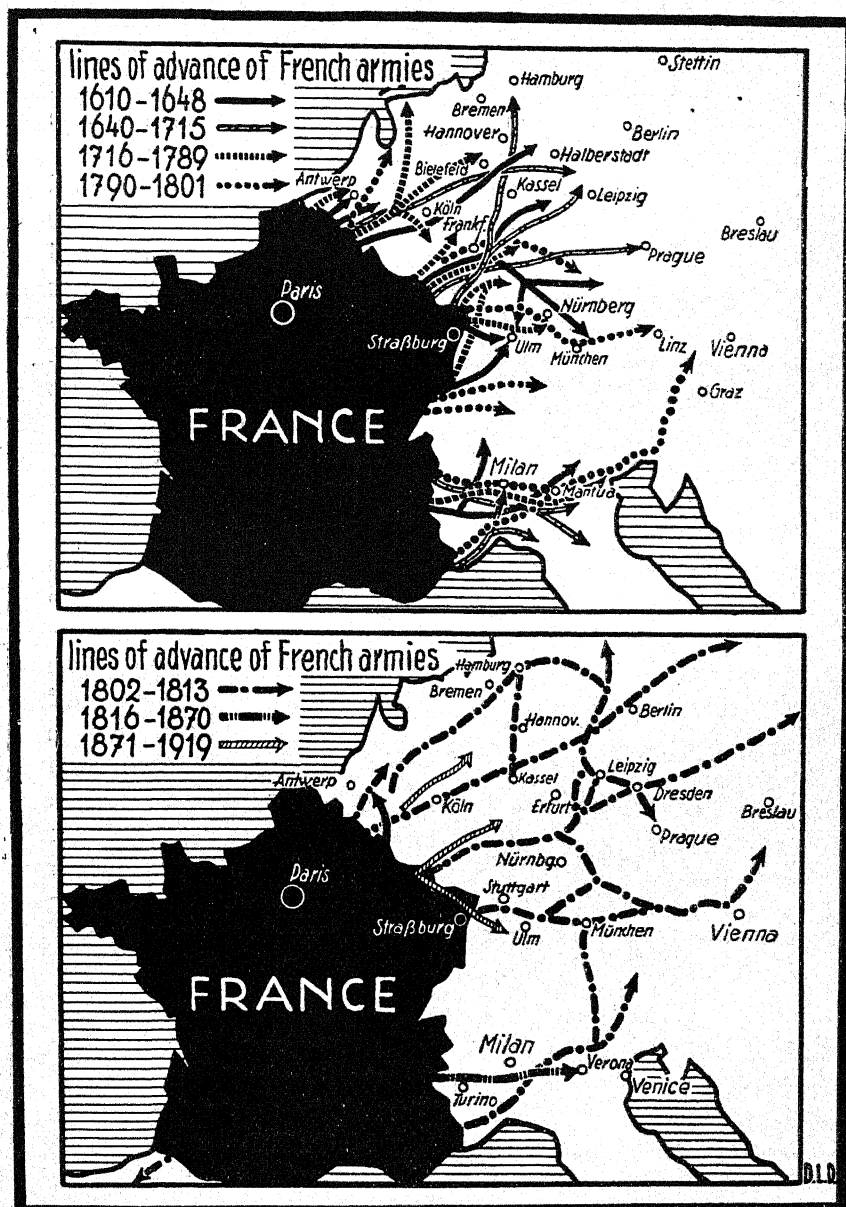
Who has most years of warfare?

shape it according to their idealism. Besides, they are inclined to see many things in a much brighter light than they really are. Their trustfulness often approaches recklessness, their softheartedness no less often turns to weakness.

Even now, despite all experiences of history up to our own days, many Germans, with an optimism actually incredible, overlook the serious, distressing situation of their country; even now many Germans, while a profound darkness is surrounding Germany, see illusions supposed to bring light to the German people in its misfortune, illusions that, alas, will all too soon prove the opposite. How very few are even now able to see where the wind comes from! In the character of the German people imagination and reason do not harmonize but combat each other. Most detrimental, however, are that pseudo-spirit of particularism and national dissension, that fatal tendency for inner discord so peculiar to the Germans. These qualities often make Germans fight against their own compatriots more bitterly and more doggedly than against a foreign enemy, blinding the Germans for the interests of the community and to national dignity. That spirit of disunion, that fatal tendency, destroyed again and again all that was great in the history of Germany.

The average **Germans**, then, are not only unmartial but of a really appalling **political immaturity**. They live in a different world. Their character is full of problems and inner contradictions. It is a mixture of qualities that combat and neutralize each other again and again, weakening, as a whole, the German people and therefore materially impairing its military power in spite of all its excellent military qualities. Proof of this is the very fact that, of all countries, in Germany, a country absolutely disarmed while surrounded by nations armed to their teeth, pacifism flourishes most and in many cases goes as far as open high treason. No less clear are the teachings of history. Rise and fall, immense achievements and terrible failures, greatness and meanness, are more than once appallingly near together. All that would certainly be different, if German national character were more harmonious and uniform, and not so distracted, therefore incalculable; if in the breast of the German people there were not a duality of souls.

How does **French** national character compare with the German? The French are by nature the very opposite of the Germans, except for their purely military qualities. This does not mean that they are on the whole better or worse than the Germans. The French are, in general, externally always courteous and obliging; on the other



French invasions of Germany, Italy, and Spain

hand, one of their own fellow countrymen, André Siegfried (cf. his book „France of Today“) seems to have good reason to think that they are incurably distrustful, envious, jealous and reserved, even impenetrable, as soon as material interests and political and national questions are involved. In the French soul dominate egotism and vanity, ambition and arrogance, thirst of power and glory, pugnacity and vindictiveness, to a degree practically unlimited and equalled only by France's eastern ally, Poland, of all nations on earth. Furthermore, the French are sensitive, resentful, cold and proud to the degree of morbidity. Above all, they know how to hate; how much so, has been proved by the noted word „boche“ they invented in the war as a name for the Germans. This word symbolizes best the extreme passion with which the French national soul can hate. The Germans are, and were in the war, unable of such hatred. In the war they called the French „Franzmann“ (really the same as Frenchman), the British „Tommy“, the words in themselves showing that no feeling of hatred was implied.

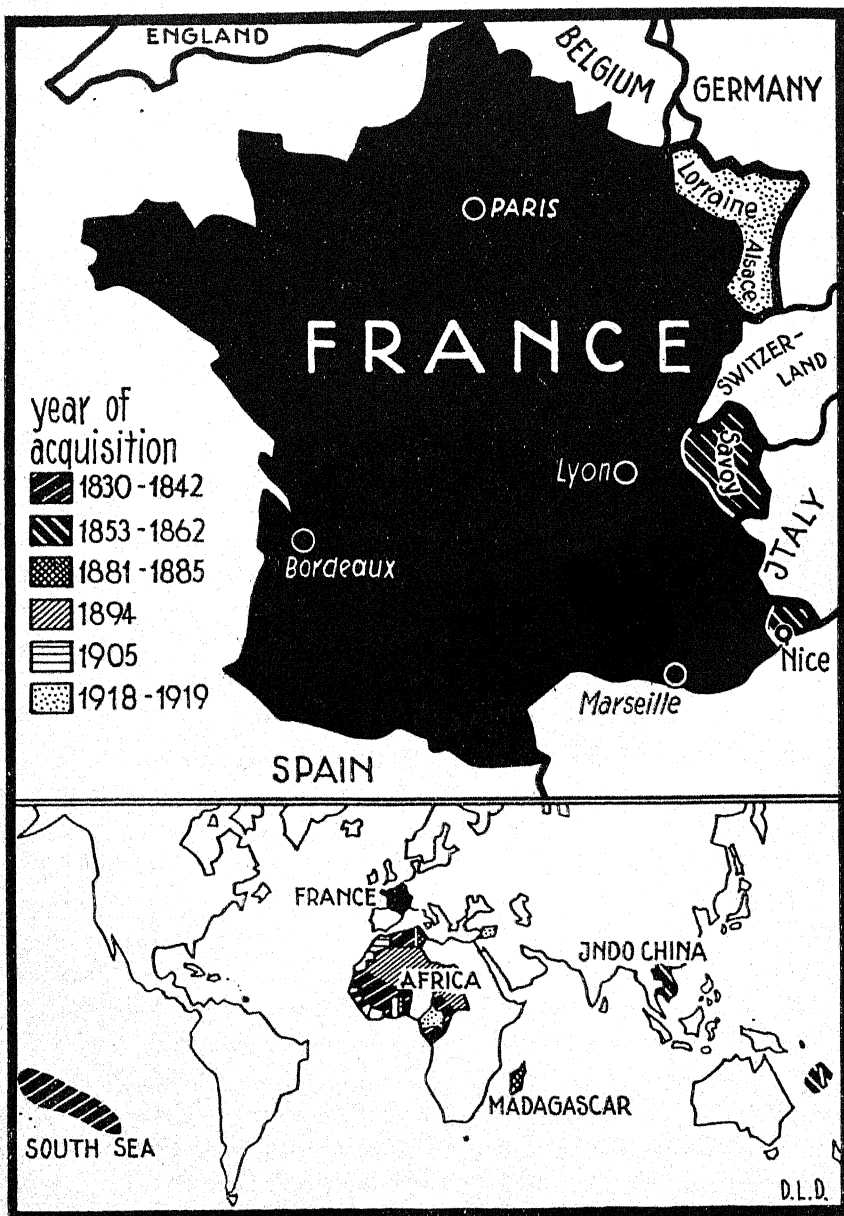
Despite their efforts to represent themselves to be the most pacific nation in the world, the French are, according to their whole character, anything but pacific. **Their „love of peace“, emphasized so often and so persistently to the outside world, is only a means to an end.** It only goes as far as the point where it does not interfere with their ambition, their thirst for glory and power, turning at once into the very opposite, when it stands in the way of their national aims. But never will the French admit that; never will they confess, not even to themselves, to a wrong committed, however evident that wrong might be. Not only for the reason that their pride and intelligence forbid such confession, but also because, **in the eyes of a Frenchman, France never can be wrong. The French know of no other right but the right of their country.**

We could cite any number of examples from history for that French mode of thinking. Consider, e. g., the question of responsibility for the World War and the French conception concerning the origin of the war of 1870/71. With possibly a very few exceptions, the French people even today are firmly and honestly convinced that they were victims of uncalled-for German attacks, both in 1870 and in 1914. They do not doubt for a moment that they were absolutely innocent of the outbreak of either war, in spite of the contrary judgment already passed by history; the same with regard to the question of guilt in the World War. The French even go so far as to declare as a wrong inflicted upon them, the combats against

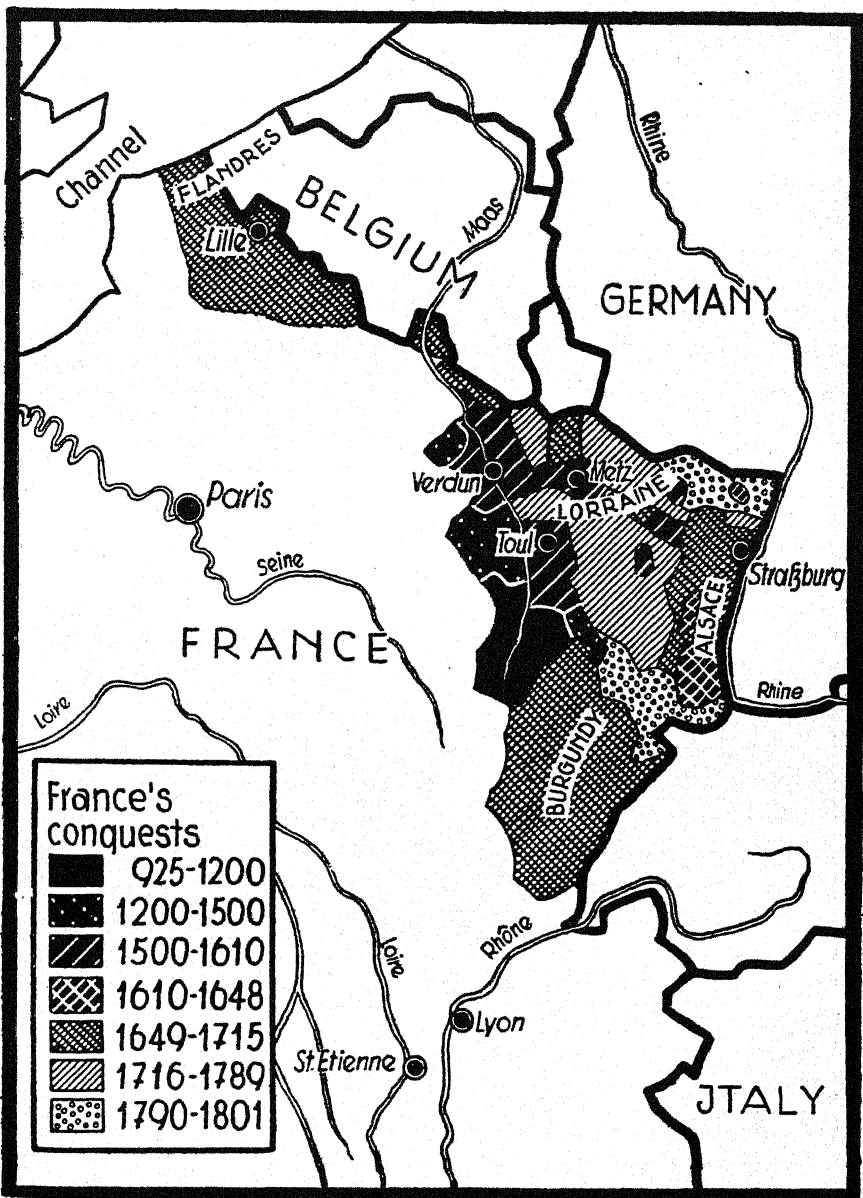
Napoleon I on French soil in the years 1814 and 1815. The last great memorandum of the French government on disarmament, submitted to the League of Nations in the summer of 1931, shows that attitude of mind very clearly in a passage saying that France, within a hundred years, had been the **victim** of three foreign invasions. What Goethe said to Eckermann, in 1824, with regard to the French people is still true today, perhaps even more so: „The French have intelligence and esprit, but no depth and no loyalty; whatever serves them at the moment, whatever may benefit their party, they consider right.“

All those characteristics, when considered from a purely human point of view, are certainly not very pleasing. On the other hand, they do not detract anything from the **military efficiency** of the French people. Strange as it may sound at first, they give French military efficiency its solid foundation. They promote it. Their distrust, their jealousy and egotism, make the French **hard and free from any sentimentality** in things material and, therefore, political too. They make the French sober, cool calculators who confront life and world openeyed, without any illusions regarding either of them. Their ambition and their thirst for glory and power furnish that active energy to which the history of France owes so many of its successes. They make the French nation one of the most bellicose of all peoples on earth.

Possibly more important is this: all those traits of French national character are not contradictory to one another. On the contrary, they all move in the same direction. Thus French national character, however disagreeable its details may be, is of such **uniformity as to exclude from the start any dissension within**. It saves the French from determining influences of cosmopolitanism, it makes them, whether they are rich or poor, high or low, feel and live above all as members of the great national community of France, although in the personal conduct of life they represent the principle of individual liberty and independence. It is the qualities mentioned that the most outstanding elements in French national character are based upon, while they draw their strength and vitality, in their turn, from these elements: first, the pronounced nationalism of the French which, as Kjellén well expresses it, has something of the feeling of personal love in it; second, the opinion of the French that they are the „chosen people“, providentially destined to be the leaders of mankind.



France's territorial expansion since 1830



France's policy of conquest against Germany in the course of centuries

Such opinion may at first sight suggest certain ideas as expressed in the words of Fichte: „To be German, means to do a thing for its own sake“, or in the words of Geibel: „The whole world will sometime benefit from the soul of Germany“. But there is a fundamental difference between these and French conceptions. The French doctrine of the „chosen people“ starts out from the premise that any other civilisation, but the French, is in itself something inferior, or even something hostile, to civilisation. While the words of Fichte and Geibel contain something purely idealistic and spiritual, the French doctrine, like its foundation, is of a **distinctly materialistic and imperialistic nature**. Besides, it is essentially older and very much more common property of the whole people than those German ideas are. As early as the Middle Ages it was customary to speak of the „Gesta Dei per Francos“, the deeds of God, performed by the French. From the 17th century on the French were more and more absorbed in the idea of being the champions of the only true kind of civilisation, the champions, in particular, of real humanity and liberty.

After the success of the World War this idea appears more firmly and more vigorously rooted in the French people than ever. The designation „La Grande Nation“, as the French call themselves, is proof of that, especially the manner in which it is done, the pride they feel and display, as well as their whole conduct. For the French of today, there cannot be anything more inspiring than to live and to bask in the splendor of French civilisation; for them, too, „the happiness of the world depends upon the greatness of France“, to quote Albert Sorel. — „Only France“, says Michelet, „can set herself up as a doctrine, because she merged most completely her interests and history with mankind. Only France can do so, because her great national and yet universal heroic history is the only complete and uninterrupted one, meeting best the demands of reason by its historical concatenation.“ — „The thought of France is a thought of love. All that French civilisation gains, is gained by justice. France works and thinks for the whole world, and her language, an achievement of mental freedom, is the common heritage of mankind“, such are the concluding words of the former President of France, Paul Deschanel, in a speech at the celebration of the 25th anniversary of the Alliance Française. — „France is the fairest moral virgin the world has ever seen“, exclaimed the former French Prime Minister Viviani in the French Chamber, and was rewarded with a storm of applause.

It would be a mistake to think all that was mere „talk“ and hypocrisy. No, it is the honest expression of real conviction. Only he who believes in it, too, drawing the corresponding conclusions, i. e., he who submits to the domination of France, is France's true friend and, therefore, a civilized human being. But anyone who dares be sceptical or even oppose the French way of thinking, is an enemy of mankind — for, in French opinion, France is synonymous with mankind! —; he is a barbarian, and all of France's suspicion and hatred will inexorably turn against him. It is, in French opinion, not only France's privilege but duty, to defend the blessings of civilisation against him. The French carry this mode of thinking so far that they condemn, and correspondingly fight, similar or identical ideas in other nations as pernicious and dangerous for mankind. Such ideas in other nations do not, of course, serve France, French civilisation, French peace. While the Germans, thoughtful and sympathetic, search into peculiarities of other peoples, trying to fathom and to understand them, the French do not even take the trouble to think seriously about a possible justification of such peculiarities. Their whole mode of thinking is rigid. It is unshakably based upon the essence of their national character. Nearly all of the numerous wars which France waged during the last few hundred years, originated largely in that mode of thinking. It is this, in the last analysis, that caused so much of the disaster and misery which Europe and the world experienced in the course of the past centuries and are experiencing again now.

Perhaps it is still more important to realize that the French mode of thinking gives French national character a universally-human surface and thereby a disguise for its actually nationalist-egoistic and distinctly warlike nature, the fatal efficacy of which the World War and post-war events, up to the very present, revealed with an appalling clearness.

France, consequently, is superior to Germany militarily because of the peculiar nature and form of her national character. In judging the military strength of the two countries such superiority cannot be estimated too high, in view of the fact that character and nature of a nation are nothing accidental but the product of its development and of the soil upon which it became a nation to live.

Conclusion

The consequences

The present study investigated whatever may be considered a factor in the „potentiel de guerre“ of a country. The results are in every respect far more favourable for France than for Germany. **In all of the various factors France is militarily far superior to Germany.**

The total result becomes even considerably more favourable for France in view of the fact that, owing to her strong peace armament, France has the opportunity of developing at once fully her „potentiel de guerre“ in case of war, and to use it without any obstacles or restrictions. Her „potentiel de paix“ gives her the time necessary. It protects her from any interference from the outside. It even enables her not only to deprive her opponents, at the outbreak of war, of vital parts of their „potentiel de guerre“ but to make those parts serve her own conduct of war. In armed conflicts France can force decisions today without even bringing her „potentiel de guerre“ to bear. We know Germany's situation in this respect. Germany has none of the conditions that make the „potentiel de guerre“ really an element of a country's military power, for the reason that the most essential condition, a corresponding military preparedness in peace, is lacking. In view of the inequality of armaments, so unbearable for Germany, Germany does not only possess a „potentiel de guerre“ inferior to France, but she does not really possess any „potentiel de guerre“ at all.

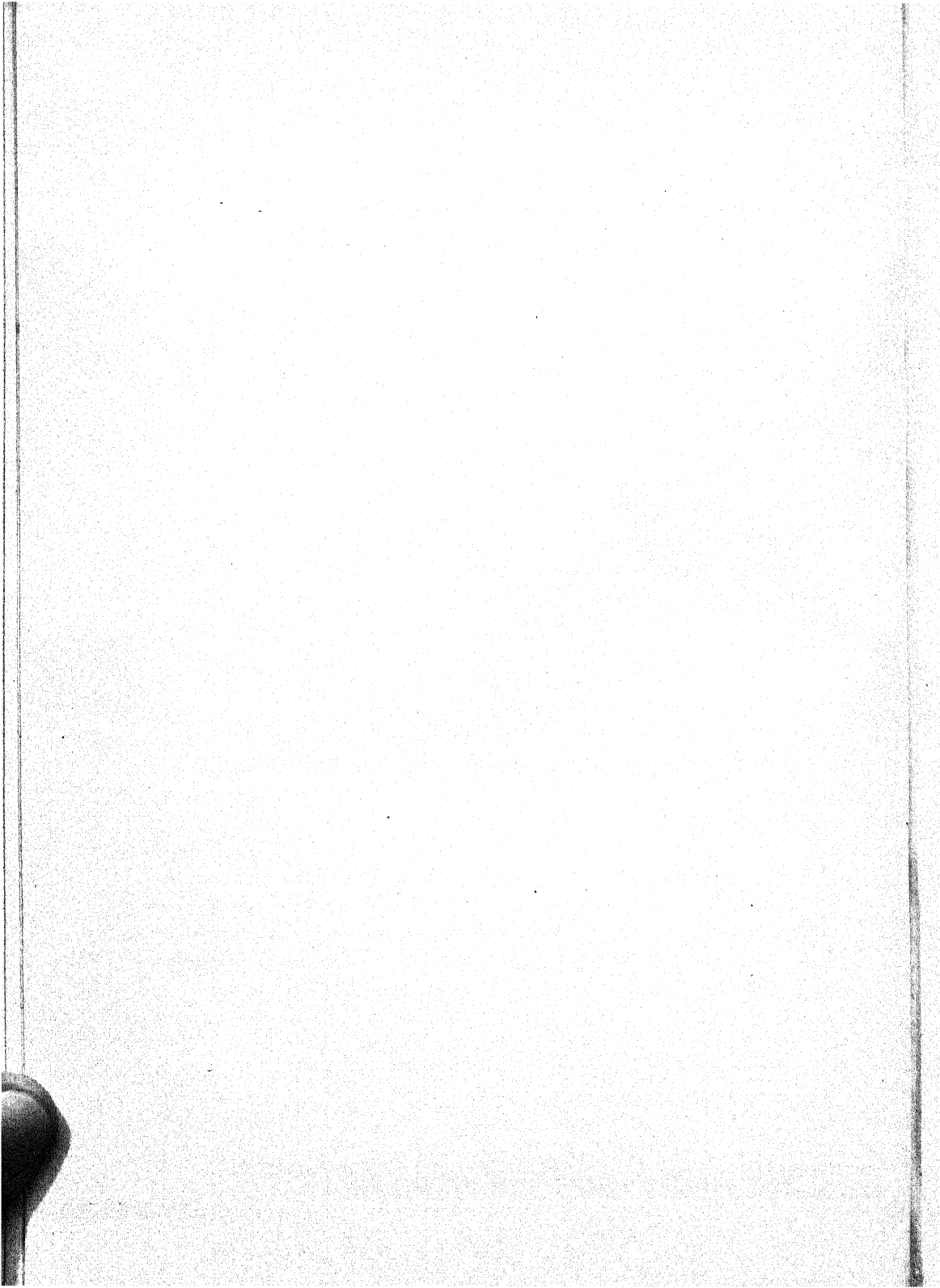
This is one of the conclusions resulting from the present study. With it the French thesis inevitably collapses which is trying to make the „potentiel de guerre“ a decisive factor in a comparison between the military power of Germany and France, securing for France a stronger peace armament than for Germany, with reference to Germany's alleged „potentiel de guerre“. France has no right to demand that. Germany, on the other hand, has every reason to demand that the present flagrant inequality of the „potentiel de

paix“ in France and Germany be removed, and to insist that France fulfil her obligations under the Treaty of Versailles, disarming in proportion to her high „potentiel de guerre“. Not until France has met that obligation, will it be possible to speak of a German „potentiel de guerre“ at all; not until then shall we be able to compare, as far as possible, the „potentiel de guerre“ of Germany and France and their respective military values.

The French thesis, then, of the „potentiel de guerre“ is absolutely untenable. It is too threadbare to hide France's real motives. It is for this reason that France has of late been changing her tactics in the question of disarmament. She not only denies to the world the enormous superiority of her „potentiel de paix“ as over against Germany, but is also attempting to ascribe to completely disarmed Germany a superior „potentiel de paix“, besides a superior „potentiel de guerre“. The so-called German protective leagues and German civil aviation are said to have a military value, which they do not, and which, under present conditions, they cannot have at all. At the same time, Germany is accused of comprehensive secret war preparations. Silly stories are told of an alleged powerful German army of attack and of immense German stores of war material in Germany and abroad. All such assertions have been proved to be absolutely unfounded. As regards production and storage of German war material in Holland, Denmark, and Sweden, the respective governments deserve recognition for energetically refuting those allegations. Holland went even so far as to give the French military attaché in The Hague an opportunity of convincing himself by personal inspection of the falseness of the allegations.

We may, therefore, spare our readers further details in this matter as well as with regard to the memorandum which the leader of the French delegation to the Disarmament Conference, Prime Minister Tardieu, in the name of his government, submitted to the Conference at its very beginning. None of the French propositions, like creation of a police army of the League of Nations, internationalisation of civil aviation, have anything to do with disarmament. The memorandum serves the same purpose as does the French thesis of „potentiel de guerre“:

France does not want to disarm. She wishes to cover up the fact that in not disarming she breaks her obligation to disarm as stipulated by the Treaty of Versailles. This is the last and most important conclusion resulting from the French thesis of „potentiel de guerre“.



**France and Germany —
their Ratio of Power
(„Potentiels de Paix“)**

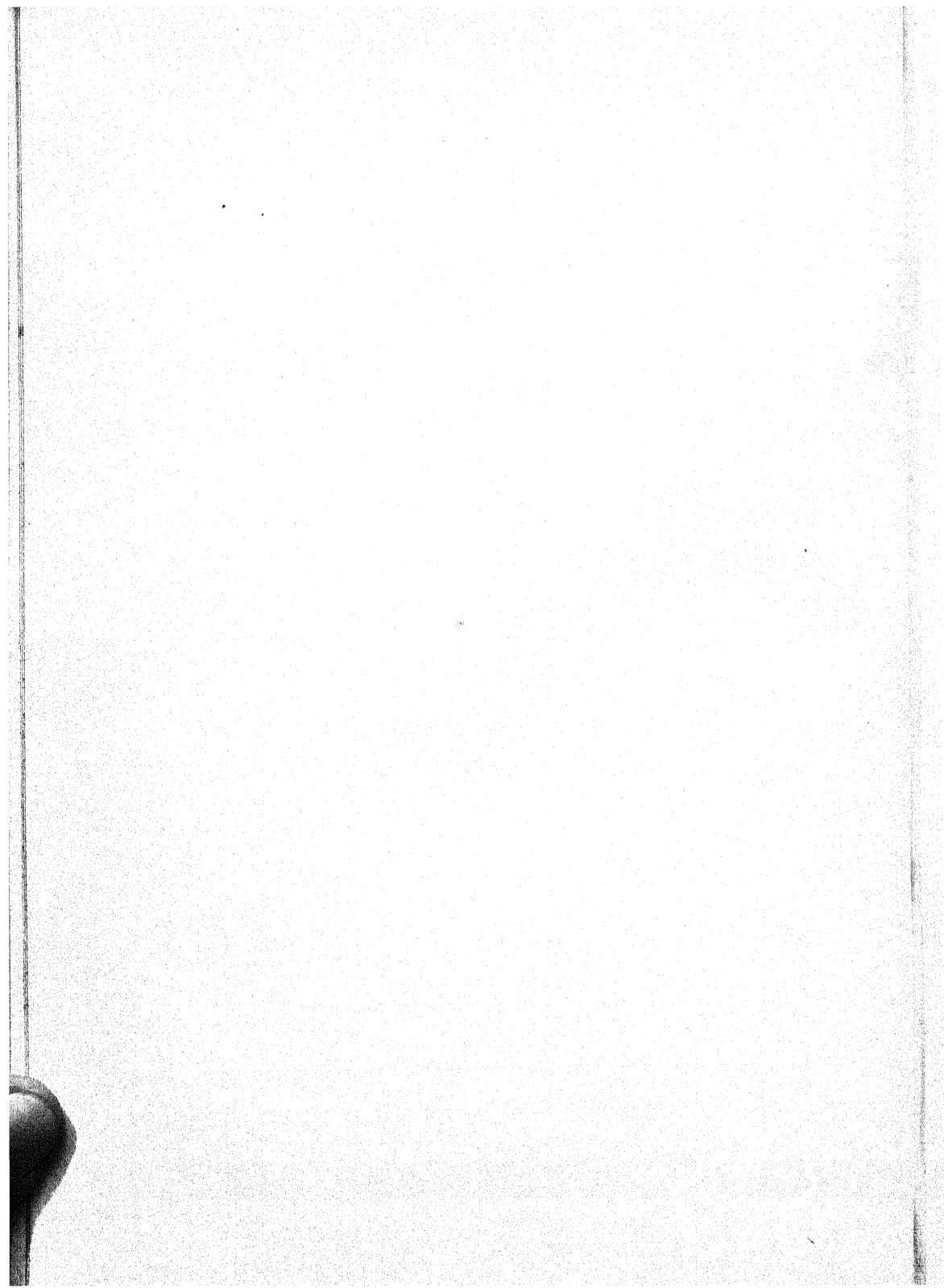
**A Comparative Study
of the Problem of Disarmament
by**

Hans Rohde, Major

With 50 Diagrammes and 3 Plates

**Printers and Publishers: Berliner Börsen-Zeitung
Copyright, Berliner Börsen-Zeitung**

1932



Contents

Introduction:

„Potentiel de paix“, a definition	1
I. The military systems	3
II. The armies	11
III. The navies	28
IV. Air forces and air defence	39
V. Trained reserves and stocks of material	49
VI. Chemical warfare	56
VII. Structure and organisation of mobilisation	62
VIII. Fortifications, inland and sea coast	69
IX. The allies	77

Conclusion:

The consequences	88
----------------------------	----

List of diagrammes

page

1. The disarmament of Germany	2
2. The military systems of France and Germany	5
3. Superiority of the French military system. Every other able-bodied Frenchman has had military training	7
4. Superiority of the French military system. In France, 240 000 men receive military training annually; in Germany, only 10 000	9
5. The French and German armies in peace time. Their units	12
6. The French and German armies in peace time. Their equipment	13
7. Strength and organisation of personnel of peace armies in France, Germany, and Italy	15
8. Distribution of French army in Europe	18
9. Distribution of French army overseas	19
10. Strong preparedness for war of French peace army	21
11. France's heavy artillery in 1913 and 1931	22
12. Motorized artillery in France and Germany	22
13. The colored contingent of the French army	24
14. White troops in the colonies, colored troops in France	24
15. Distribution of colored troops among the several units	25
16. France's colonial army as compared to the German Federal Army	26
17. Military expenditures of France and Germany in 1931	27
18. The navies of France, Germany, and Italy	30
19. Construction of new ships in France and Germany since 1922	31
20. Number and calibre of guns in French, German, and Italian navies	33
21. Superiority of French navy compared to German and Italian navies	35
22. Franco-Italian naval agreement of March 1st, 1931	37
23. Naval expenditures of France and Germany in 1931	38
24. French air forces, numerical strength of planes and personnel	40
25. Distribution of army air forces in France	41
26. Organisation and strength of French air forces	42
27. Efficiency of French military planes	43
28. Violation of Germany's air sovereignty by Polish military aviators, in 1928 and 1929	44
29. Idem, in 1930 and 1931/32	44
30. Idem, by Czechoslovakian military aviators, in 1930/31 and 1932	45
31. Idem, by French military aviators in 1931 and 1932	45
32. French expenditures for military aviation in 1931	46
33. Military expenditures of France and Germany in 1913 and 1931	48
34. Strength and organisation of trained reserves in France	52
35. France's stores of war material	53
36. France's superiority in trained reserves and stores of material, compared to Italy	55
37. Germany menaced by bombing planes of France and her allies	59
38. Location of most important chemical industries in France and Germany	61
39. Mobilisation of French army	63
40. Superiority of France, three weeks after mobilisation, as compared to her three most important continental neighbours	67
41. French strategic railways against Germany, in 1925 and 1930	68
42. Germany deprived of fortifications	70
43. New system of fortifications along the eastern and north-eastern frontiers of France	71
44. A modern French group of fortifications on the German border	78
45. French fortification of sea coast with stations for navy and air force	75
46. Military systems of French allies	79
47. Armies of French allies. Their strength, &c., compared in detail to German army	82
48. Armies of French allies. Their total strength, &c., compared to German army	83
49. Military expenditures of the allies of France	85
50. Ratio of military power along Germany's western, eastern, and south-eastern frontiers, &c.	86

Introduction

„Potentiel de Paix“, a definition

During the sessions of the Preparatory Disarmament Conference of the League of Nations at Geneva the expression „potentiel de paix“ was coined as a designation for the total aggregate of such factors of national armament as are strictly military in character and purpose, in contrast to the so-called potentials of war. Potentials of peace are ready in peace time and can therefore be used immediately following mobilisation in case of war. They constitute, in times of peace, the military power on land, on sea, and in the air; the stock of war material kept in readiness; the fortifications, inland and on the sea coast; the structure and organisation of mobilisation, as well as any other measures systematically taken in peace time for the case of war. They represent the active part of a country's military power which, in contrast to the potentials of war, accurately measurable, can be correspondingly limited and reduced at any time.

The expression „potentiel de paix“, consequently, symbolizes the counter-part to the „potentiel de guerre“. The meaning of the latter has been fully explained in the introduction to my essay on the „Potentiel de Guerre“ of Germany and France. Comparing the various factors of the potentiels de guerre of both countries, I came to the conclusion that in Germany there exists none of the conditions that make the „potentiel de guerre“ an element of military power. For, the most important of such conditions, a corresponding German peace armament is lacking. In this connection I summed up my conclusions with the statement that Germany, contrary to the thesis held by the French in their policy of disarmament, does not only possess a far smaller „potentiel de guerre“ than France, but in reality none at all, in view of the present disproportion between the enormous military power of France and her allies on the one hand, and, on

the other hand, the absolutely pitiful forces and means of defence left to Germany by the Treaty of Versailles.

The present essay intends to emphasize both facts by comparing the various factors of the „potentiels de paix“ of the two countries. At the same time it hopes to demonstrate the essential falsity of the French thesis of security and Germany's right to insist that the present inequality of armaments, too crass for Germany to endure, be removed and that France and her allies meet their obligation to disarm as stipulated by the Treaty of Versailles.

Disarmament of Germany

Up to 1926 there were surrendered, destroyed, wrecked, or sunk:

- over 6 millions of small fire arms
- „ 107000 machine guns
- „ 83300 guns and mine throwers
- „ 38750000 charged artillery shells
- „ 332500 t uncharged artillery ammunition etc.
- „ 16500000 hand, rifle, and catapult grenades
- „ 473000000 munitions for small arms
- „ 37600 t powder

- 17 air ships
- 14014 air planes
- 27757 plane motors
- 26 battle ships
- 4 armored ships for coast defence
- 19 small cruisers
- 21 training and special ships
- 83 torpedo boats
- 315 submarines



I.

The military systems

The Treaty of Versailles forbids general conscription in Germany, forcing upon her, instead, a military system of volunteers and of recruiting. National defence in Germany, according to treaty, consists of volunteers with an obligatory term of service, 25 years for officers, 12 years for men. Its strength, as regards the army, must not exceed the number of 4000 officers, including military officials, and 96 000 men, i. e. 100 000 men in all. As regards the navy, the figures are 1500 commissioned and non-commissioned officers and 13 500 men, i. e. 15 000 men in all. The number of officers and men who for one reason or another are discharged within their period of service, must not exceed 5 % of the prescribed total, either in the army or in the navy. After being mustered out they must not be recorded or otherwise controlled, nor receive further military training. Similarly, all educational institutions, vocational schools, societies, and the merchant marine, are forbidden to have anything to do with military affairs. They must not have any connection with military authorities nor train their members, nor have them trained in the use of arms of war.

In consequence of this compulsory military system and its restrictions, **Germany can give military training only to an infinitesimal fraction of her able-bodied male population.** She is not in the position, either to build up reserves for the case of war, or to prepare her young people for military service. All of that has been prohibited by the military stipulations of the Treaty of Versailles.

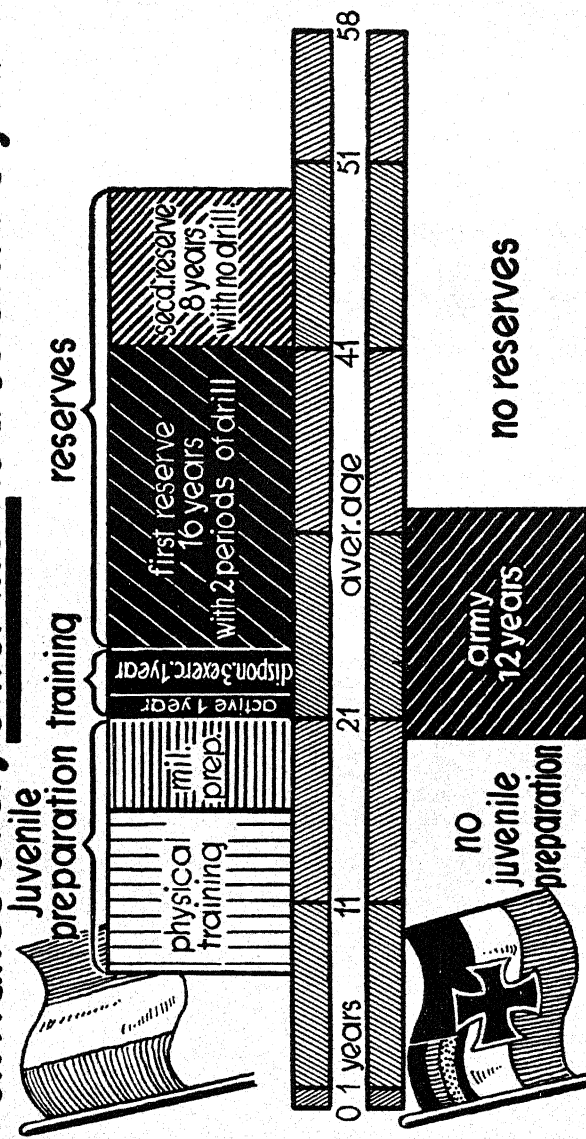
The military system of France, on the other hand, is still based upon general conscription. Its nature and extent are defined by the so-called „Loi sur le recrutement de l'armée“ of March 31, 1928. It makes all white French, between the ages of 21 and 49, subject to general military service, classifying service as „term of active

service“, the so-called „disponibilité“, the „first reserve“ and the „second reserve“. At the same time, a distinction is made between „armed service“ and „auxiliary service“. The former includes all men capable of carrying arms; the latter includes those men who are physically not absolutely fit for such service. These are drafted for the same length of service as the able-bodied. They are employed in the army as secretaries, mechanics, orderlies, etc. However, in consequence of the experiences of the war, they are, in the future, to be trained in the use of arms more than was done so far. In the case of both, armed and auxiliary service, the term of active service is one year; the period of „disponibilité“ is three years; the period of military service is 16 years for the first reserve, 8 years for the second reserve. The first twenty annual classes are intended for the field army, while the last eight classes are not supposed to be used at the front, as far as possible.

In the colonies general conscription has not been fully organized as yet. Morocco is excluded entirely, her contingent of troops being filled by volunteers and recruiting. But colored soldiers generally see active service for at least two or three years. Besides, France naturally is able, if need be, to use her colored man-power any time, for either armed or auxiliary service, in her national defence, in the same way or even much more extensively than was done during the World War. As pointed out in **Potentiel de Guerre**, there were 567 000 colored men used as soldiers and 310 000 for auxiliary service in France or in other seats of war. France is no doubt planning to make full use of that possibility in a future war, as clearly proved by her naval policy which is intended to secure for France supremacy in the western Mediterranean and, thereby, a speedy and undisturbed transportation of colored troops from North Africa to the mother land.

In contrast to Germany, France is thus in the position of giving military training, in peace time, to her entire able-bodied male population and to a part of her colored population. Moreover, she is able to use for auxiliary reserve service those who are not perfectly fit for service in arms. At the same time, France, in contrast again to Germany, can build up, in addition to the standing army, a strong, efficient, body of reserves whose military training is kept at the standard of active service by means of legally regulated exercises. French military law obligates the members of the class of disponibilité for one period, the members of the first reserve for two periods of military exercises annually, each of three weeks

In France every other man is a soldier 28 years



In Germany one man out of 200 is a soldier 12 years

DLD

The military systems of France and Germany

duration. It also stipulates that officers and such non-commissioned officers of the reserve as are qualified as officers of the reserve, physicians, etc., may be drafted for periods of training up to four weeks in all.

General conscription, therefore, forms the principal basis of the French military system. In addition, there must be mentioned other important features. There is the organisation of the so-called „affectés spéciaux“ and, besides the conscript army, a strong army of professional soldiers comprising at least 106 000 white capitulants and 42 000 men in the military gendarmerie.

The „affectés spéciaux“ are reservists who, according to their professions, are mobilized and placed in the war industries or in economic units, technical and military, such as are formed at the outbreak of a war. There they receive military grades corresponding to their civil occupations. A plain workman becomes a plain private; a foreman or master becomes a non-commissioned officer; a manager becomes an officer of respective rank. The professional army continues itself by capitulants and volunteers. It furnishes the instructional staff for the conscript army as well as the nucleus for mobilized formations. The military gendarmerie at the same time relieves the army of the task of maintaining order at home and in the overseas possessions. Capitulations may be effected after six months of service, upon approval of the army unit. They may be renewed for a total of fifteen years of service. Volunteers must have completed their eighteenth year of age, must be unmarried and of good character. They may enlist for three or for five years and, vacancies available, choose their own arm und army unit. In war time they can enlist after completing their seventeenth year.

The military system of France, therefore, is a combination of general conscription, voluntary service, and professional army. It represents the earnest desire to utilize completely the entire man-power for national defence and to give the army, despite the short, one year, period of active service, a maximum of military training and fighting efficiency. Additional means toward that end are these: the army is relieved, more or less completely, of all preparations for mobilisation and of internal service, that work having been transferred to 12 000 military officials, the so-called „agents militaires“, and 50 000 civil employés, finally by the institution of „disponibilité“ and by a comprehensive juvenile military education.

Inhabitants

41.3 Millions

64.8 Millions

women

men of mil.
age.

women

0.326

trained

21%

48%

49%

France

Germany

D.L.D.

Superiority of the French military system. Every other able-bodied Frenchman has had military training

„Disponibilité“ includes the last three classes of annually mustered-out men. These are considered merely on furlough, like the former „reserves at disposal“. The government may draft them, like all officers of the reserve and of the medical and veterinary service, any time, without the consent of parliament and without an order of mobilisation. They may be kept under the colors beyond their periods of active service or additional training. Thus „disponibilité“ gives the French government the privilege of having in case of emergency at its immediate disposal, besides the standing army, five complete annual classes, all officers of the reserve and of the medical and veterinary service, and all reservists, even older classes, drafted for their periodical training. **This organisation alone suffices for the purpose of raising the whole of the French peace army and a large part of the reserve formations to war strength. In the last analysis it amounts to a veiled mobilisation by means of which the official mobilisation is materially advanced enabling the French government to start a war by surprise.**

Military training of young people is regulated by a special law which, submitted to parliament on March 13th, 1928, was not finally passed but, for its larger part, practically enacted. It is under the administration of the „Undersecretariat for Physical Education“, organized on November 13th, 1928, which, although joined to the „Ministry of Education and Fine Arts“, exerts a strong influence upon the Ministry of Defence. It is its aim to awaken and to foster in the young men an interest and understanding for national defence; to facilitate and speed up the training of recruits, thereby forming a compensation for the short, one year period of active service. Training begins as early as the completed sixth year of age. It is divided into general physical education and preparation for military service. The former includes both boys and girls. It is conducted according to modern, standardized programs of instruction, by trained teachers of physical education and sports, in public and vocational schools, in societies, clubs, and special courses, merging, for the boys when 16 years of age, into preparation for military service.

Preparation for military service lasts until the time of enlistment in the army. It falls into three stages with regard to the manner and degree of training. The first stage is the „preparation of elementary aptitude“. There the participants are brought to a point where their training in details may be considered complete so that training for action may start at once upon entering the army.

Number of troops trained annually.

Enlistment

100 000 serve 12 years

Discharge

abt. 10 000



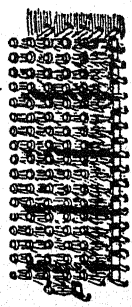
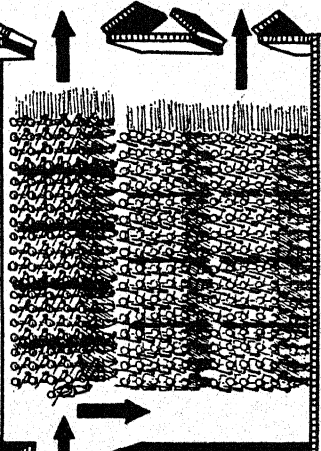
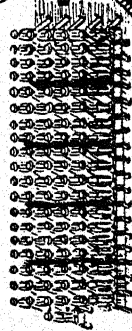
abt. 10 000
leave service
completely



GERMANY

240 000 serve 1 year; 400 000 serve longer

240 000 men



**240 000 men
for reserve**



FRANCE

D.L.D.

Superiority of the French military system. In France, 240 000 men receive military training annually; in Germany, only 10 000

In the second stage, the „elementary military preparation“, the young men are advanced far enough to be used as group leaders and to be promoted to the rank of non-commissioned officers soon after entering service. Their training takes place, besides practically in all schools, in additional 11 417 sporting and shooting leagues financially subsidized by the government. The purpose of the third stage, „superior military preparation“ is the training of reserve officers. It takes place in the higher institutions of education like *licées* and universities, lasting two years. In the first year all participants are trained for the infantry; in the second year, according to the nature of the school and to the choice of the students, they are trained for one of the principal arms. Those who pass the final examination receive the „*brevet militaire supérieur*“ with the privilege of attending a reserve officers' school at the beginning of active service. Upon passing the final examination there, too, the men are made reserve officers, serving for the remainder of their terms as officers under the colors. Promotion to the rank of a reserve officer may happen after only six months of service. There have been cases recently, when graduates of higher institutions of education, possessing the „*brevet militaire supérieur*“ were appointed reserve officers immediately upon entering service.

At present there are about 2000 officers and non-commissioned officers engaged as the corps of instruction for juvenile military training. This training now reaches about one seventh of all able-bodied young men. What that means for the military power of France is self-evident. A large number of young Frenchmen today possess in peace time, long before their active service begins, a military training thorough enough to make them perfect soldiers within a short time. In case of war the French government is in the position of counting, soon after the opening of hostilities, upon the availability at the front of a large part of her young men of nineteen and twenty.

So much for the French military system. **Combining, as it does, general conscription, voluntary service, professional army, and military juvenile training, it is in every respect the most perfect organisation of the kind, the most perfect realisation of the idea of military power that can be imagined.** While in Germany there is scarcely one man out of 600 militarily trained, there is in France one out of seven. This difference sufficiently characterizes the really gigantic superiority to Germany which France possesses owing to

her own military system. That superiority is enormously increased by the fact that the military power of France's allies must be taken into account. Their organisations, especially those of Belgium, Poland and Czechoslovakia, are built up on principles similar to those of France.

II.

The armies

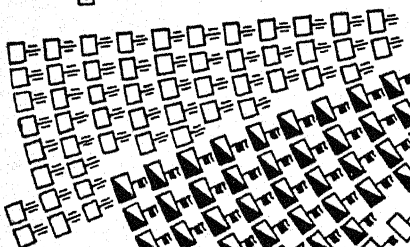
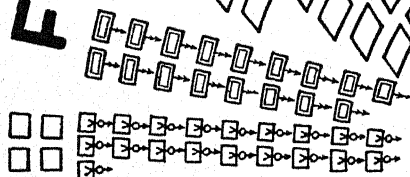
It has been stated that the strength of the German army, including officers, but not counting a number of medical and veterinary officers, must not exceed the number of 100 000 men. At the same time the Treaty of Versailles prescribes, to the minutest detail, its organisation, arming, equipment, and the structure and strength of its commanding authorities, its staffs, and divisions.

In accordance with these provisions, the German army consists of seven divisions of infantry and three divisions of cavalry under two group commands; each infantry division consists of three regiments of infantry, one squadron of cavalry, one regiment of artillery, one battalion of engineers, one signal corps section, one transport section and one motor-transport section; each cavalry division consists of six cavalry regiments and one section of mounted artillery. Each regiment of infantry has three field battalions each with three companies of rifles, one machine gun company, one training battalion, and one company of mine throwers. A regiment of cavalry has four squadrons and one training squadron. A regiment of artillery has three sections, each with two batteries of field guns, one battalion of light howitzers, and one training battery. A battalion of engineers has two companies of engineers, a bridge column, and a search-light platoon. The signal section has two companies. The motor-transport section has three companies; the transport section has four squadrons.

Heavy artillery, tanks, and war planes were forbidden to the German army. Its arming was fixed as follows: 84 000 rifles, 18 000 carbines, 1134 light and 792 heavy machine guns, 189 light and 63 medium mine throwers, 204 field guns, and 84 light field howitzers. The maximum quantity of ammunition was limited to 400 shots for each rifle and carbine, 8000 shots for each machine gun, 400 shots for each medium mine thrower, 800 shots for each light mine thrower, 1000 shots for each field gun, and 800 shots for each field howitzer.

Peace strength

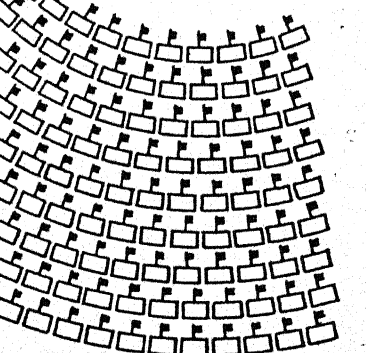
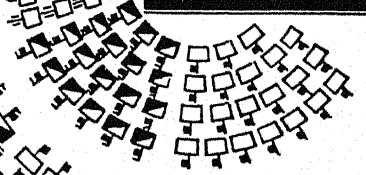
FRANCE



- 1 inf. regt.
- 1 cav. regt.
- 1 l. art. regt.
- 1 h. art. regt.
- 1 anti-air cr. regt.
- 9 enqin. comp.
- 1 batln. tanks
- 3 train transp. & motortransp. comp.
- 1 squadr. observ.
- 1 squadr. bombers
- 1 squ. chasers

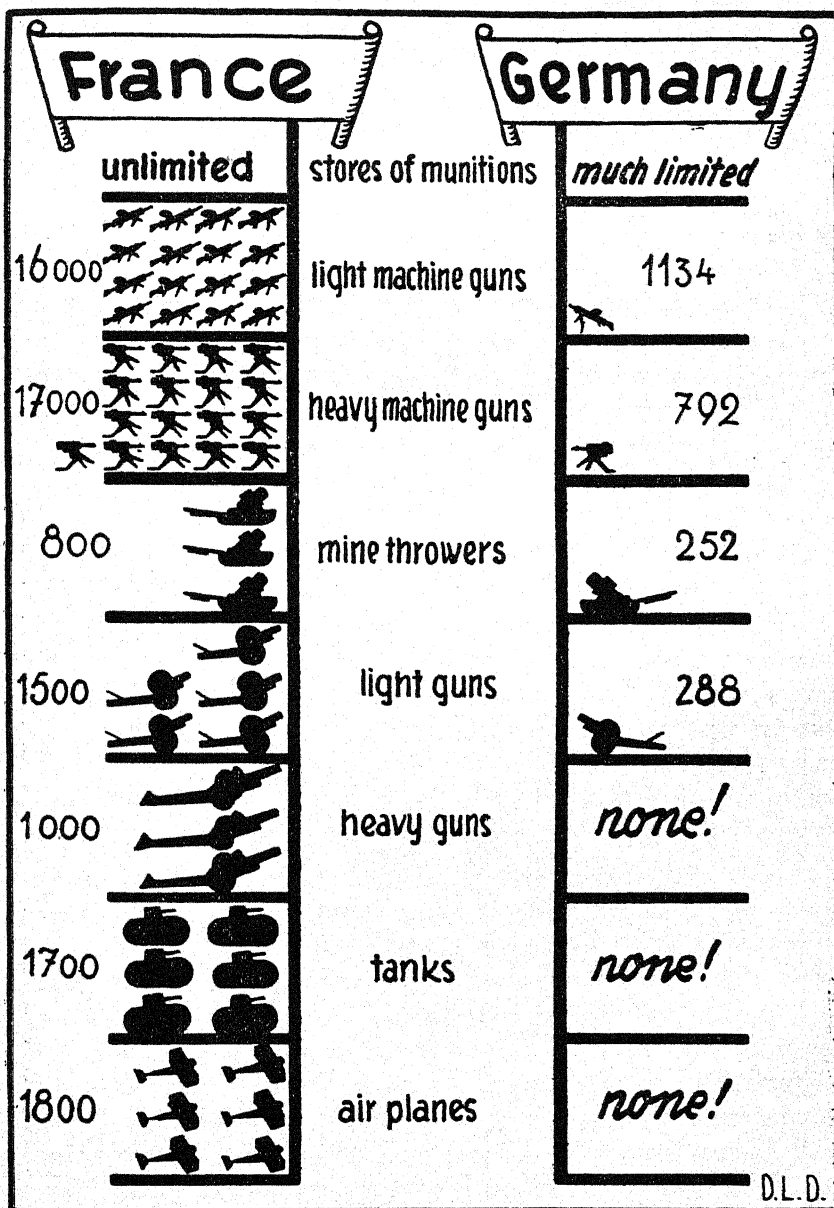
none
none
none

GERMANY



DLD

The French and German armies in peace time. Their units



The French and German armiens in peace time. Their equipment

All stores of arms, munitions, and war equipment exceeding the figures thus limited had to be surrendered or destroyed. At the same time the Grand General Staff, all military schools, war academies, military colleges, and schools for non-commissioned officers, had to be dissolved. For the training of officers Germany was allowed only four military schools, one each for infantry, cavalry, artillery, and engineers. The number of candidates admitted to those schools was made dependent upon the number of vacancies in the corps of officers. The number of officers or persons of officers' rank employed in the Ministry of National Defence was set at a maximum of 300. Beyond this there were restrictions imposed concerning the civil personnel in the army administration, the number of officials in the customs and forestry service, and the number of gendarmes and officials of police.

The maximum strength of the police must not exceed 150 000, that of the gendarmerie, 17 000 officials. Besides, the police must be organized as a purely local institution upon local principles. Its equipment is extremely limited. Per three men there is one carbine, per 20 men one machine pistol, per 1000 men one non-overland armoured motor-car with a stationary heavy machine gun. Heavy arms are prohibited entirely. **Contrary to French assertions, neither the police nor the gendarmerie have any military qualifications. They cannot be considered parts of a fighting army. In view of their organisation, arms, and equipment they constitute in no way a reinforcement of the army for national defence.**

In France conditions are quite different. The French army, according to the latest reports, has a total strength of 650 000 men including the white gendarmerie, but without the air forces. With its 32 270 officers, 107 000 white capitulants, at least 100 000 long-term colored soldiers, 42 685 men gendarmerie, and 18 000 men in the Foreign Legion, 45 % of the French army consist of professional soldiers. **Its total strength is six and a half times, its number of professional soldiers alone more than three times as large as the whole German army.** This immense superiority of the French peace army as over against the German army, is also demonstrated by the number and strength of its units, by its abundant equipment with heavy arms, and by its high degree of preparedness for war. There is a difference between the forces stationed in Europe, the so-called „troupes métropolitaines“, and those outside, the so-called „forces d'outre-mer“.

France

Professional soldiers

officers
32 270

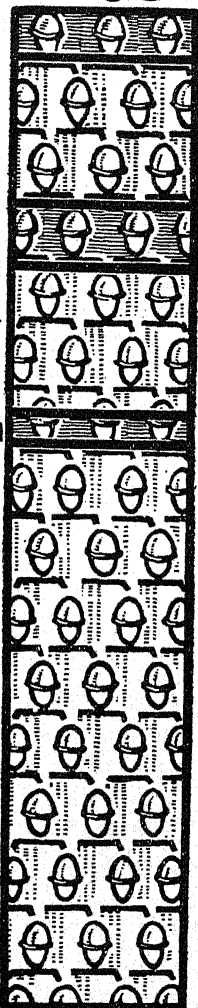
capitulants
107 000

gendarmérie
42 685

colored, long-term
100 000

foreign legion
18 000

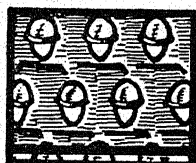
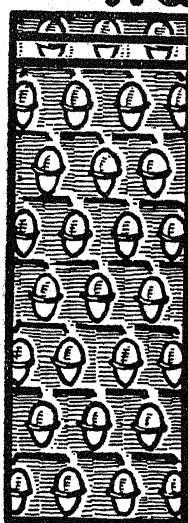
men
350 045



Italy

officers 15 271
profess. soldiers
14 334

men
300 395



men
96 000
officers 4 000

Germany

DLD

Strength and organisation of personnel of peace armies in France,
Germany, and Italy

The „troupes-métropolitaines“ contain the bulk of white Frenchmen, augmented, at the same time, by a strong contingent of colored soldiers. Not counting the air forces which are to be discussed in another chapter, they consist in all of 26 infantry divisions, 5 cavalry divisions, and the so-called „general-reserve“, distributed over 20 „régions militaires“ — 29 white home divisions, one white colonial division, and 5 colored divisions —. When the French army was reorganized, the military regions took the place of the former corps departments. They represent the military division of the territory of European France and, at the same time, the frames for the army corps which will be formed in war. They are headed by a Commanding General or Regional Commandant, the „officier général commandant la région“. Being responsible directly to the Minister of National Defence, he is the commander of the active troops and of the military authorities within his region. In war he takes charge of an army corps.

The distribution of active troops over the various regions differs according to their location and importance. With two exceptions, the regions of the interior have one division each. Two regions on the German border, the two regions on the Italian border, and one of the regions on the Spanish border, have two divisions each, while one of the three regions bordering upon Germany has even three divisions of infantry.

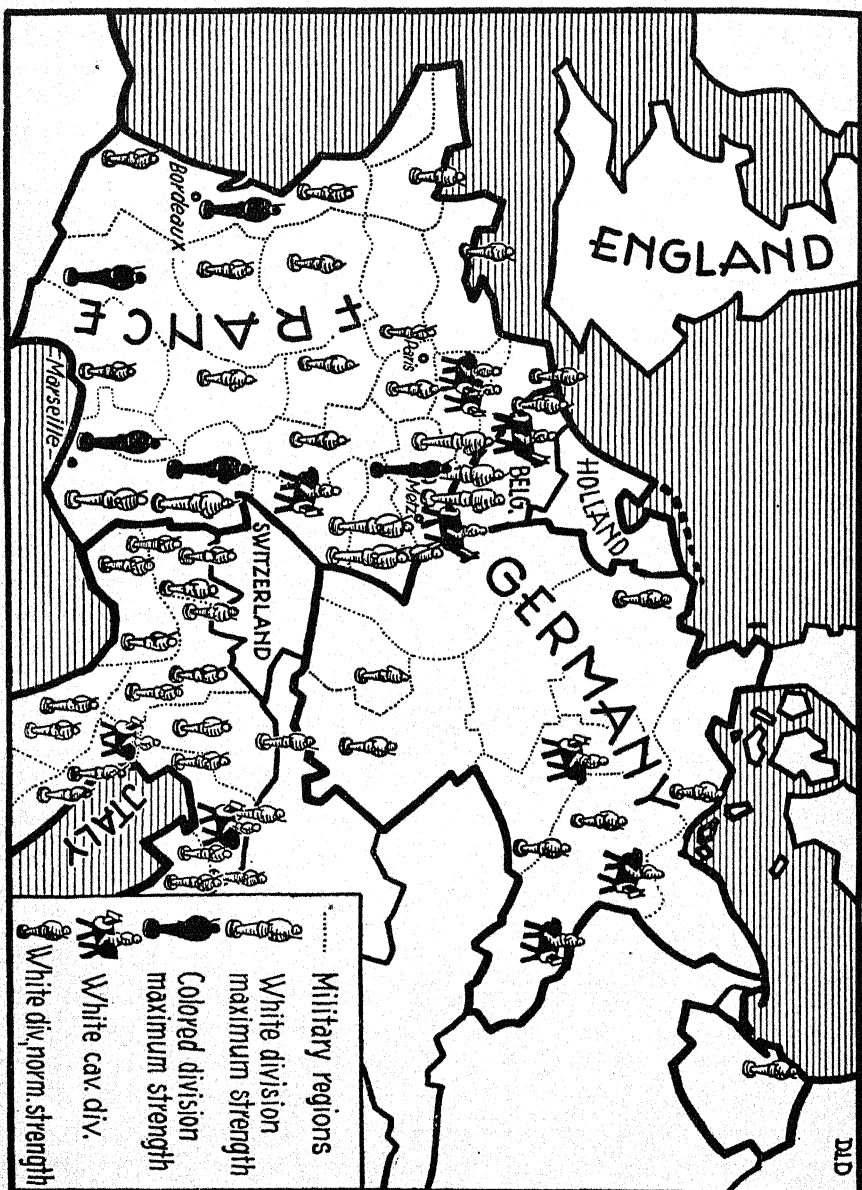
It will be seen that of the 26 infantry divisions and 5 cavalry divisions of the „troupes métropolitaines“ there are as many as 7 infantry divisions (one of them colored) and one cavalry division stationed directly on the German border, while 4 infantry divisions (two of them colored) and one cavalry division are stationed directly on the Italian border. The infantry divisions, except for one which has only two regiments of infantry, consist of at least three regiments of infantry and one regiment of artillery. The two white divisions on the Italian border and one of the white divisions on the German border, as well as the five colored divisions, consist of two brigades of infantry, two regiments each. Ten divisions have, in addition to their regular regiment of artillery, an extra regiment of artillery with motor-vehicles of various construction and calibre. The divisions of cavalry consist of two mounted brigades, two regiments each, of one battalion of „dragons portés“, one regiment of mounted artillery, and a section of armoured motor-cars, up to two or three squadrons strong.

A regiment of infantry has a staff company, three battalions each with three rifle companies, a machine gun company, a company for communication and supplementary arms (six mine throwers, three infantry guns, and a signal platoon). A regiment of cavalry has a staff squadron, two half-regiments each with two squadrons and a platoon of heavy machine guns. A division regiment of artillery has three light and two heavy sections with two batteries each. A regiment of mounted artillery has two sections with two batteries each. A motorized artillery regiment has three sections with two batteries each. Besides, each of the three kinds of artillery regiments possesses a staff battery.

All other units, not organically belonging to the several divisions, form the so-called „general reserve“. They are, first of all, the bulk of heavy artillery with a total of 19 regiments; the entire anti-aircraft artillery; the corps of engineers which includes the sappers, the railway and signal corps formations; the tank units, and army service formations.

The 19 regiments of heavy artillery contain in all 122 sections with 172 horse-drawn, 64 motorized, and eight railway batteries. The anti-aircraft units have four motorized regiments with 15 sections and 30 batteries in all; the corps of engineers has 11 regiments with a total of 68 companies of sappers, 23½ railway and 31 communication companies. The tank units have 10 regiments with 21 battalions and 63 companies in all. The army-service formations have six squadrons with 46 companies. Of the tank battalions one is heavy, 20 are light. The light battalion has 66 light tanks, the heavy battalion has 12 heavy tanks. 55 % of the army-service is motorized. It is being reorganized and consists for the most part of colored men. The white colonial division has a special function. It is a „depot division“ which has to train white officers, non-commissioned officers and men, supplementing the colonial army.

The „forces d'outre-mer“ largely consist of colored men. They have a total strength of about 15 or 16 divisions of infantry and four divisions of cavalry. **Eight divisions of infantry and four brigades of cavalry are stationed in North Africa** as the „armée d'Afrique“. One division of infantry and one brigade of cavalry are in Tunis; three divisions of infantry and one brigade of cavalry are in Algiers; three divisions of infantry and two mixed brigades are in Morocco. **These forces are organized, equipped, and located with the end in view that they can at any time be transported to Europe, on short notice, to be used there.** For the remaining parts



Distribution of French army in Europe

of the „forces d'outre-mer“ such use has not been provided for, at least not for the present: which does not exclude their use in the case of emergency, as was done during the World War. They are distributed as follows: 750 officers and 25 000 men in the other parts of Africa: 800 officers and 20 000 men in the mandate of Syria; 850 officers and 25 000 men in Indo-China, in the Antilles and in the French island possessions in the Pacific; and finally 100 officers and 3400 men as an expeditionary corps in China for the protection of French national rights there.

The standing army of France, consequently, not counting the air forces nor the numerous units of the „general reserve“, consists of a total force of about 40 or 41 infantry divisions and nine cavalry divisions, 75 % of which, at least, are immediately available for the defence of European France. The army, furthermore, is equipped with heavy arms and is motorized to a degree such as is unparalleled by any other army in the world. Compare, e. g. these data:

Germany -- 1134 light and 793 heavy machine guns; 288 light cannons; no heavy artillery; no tanks; no war planes.

France — at least 16 000 light and 17 000 heavy machine guns; 1300 light and 100 heavy cannons; 1700 tanks; 2800 war planes.

All of this in peace time, without the reserves of material!

Moreover, the fighting quality of the French army is enhanced by a strong concentration of forces along the frontiers in Europe and in North Africa outside of Europe. This gives France, within a very limited territory directly touching upon the German border, forces at least as strong, if not stronger, at any rate far better equipped, than were allowed to Germany for the protection of the whole Reich. Added to this, there is another advantage in that the six divisions at the German border and the two white divisions at the Italian border, the so-called „frontier divisions“ are in peace time more or less fully complete for action, consequently available for use within a few hours. The former have nearly war strength, the latter, though not quite so complete, likewise possess increased preparedness for action, consisting of four regiments of infantry besides having battalions of Alpine Chasseurs attached to them which are exceptionally strong. The same thing is true of the five cavalry divisions and five colored divisions stationed in Europe.

The five colored divisions consist of North Africans, Senegalese, Indo-Chinese and Malgasses. They were stationed in Europe

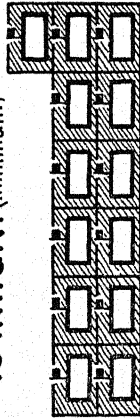
4½ air. div. (maximum)



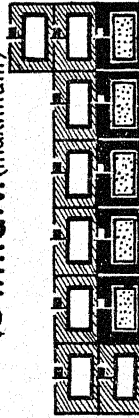
5 cav. div. (maximum)



13 inf. div. (minimum)



13 inf. div. (maximum)

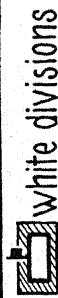


8 inf. div. (maximum)

(rapidly transferred to Europe)



7½ inf. div.



white divisions



colored divisions

3 cav. div. (maximum)



½ cav. div. (maximum)



D.L.D.

Europe North Africa Overseas

Strong preparedness for war of French peace army

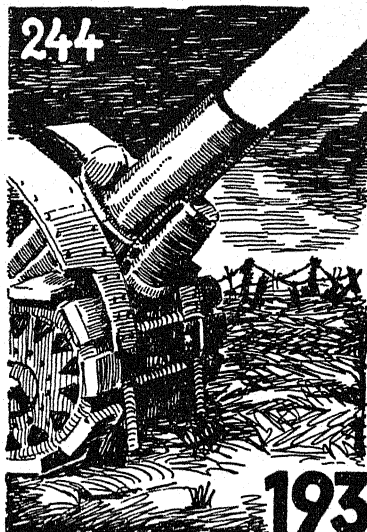
France

twelve times as many
heavy batteries as in 1913.

1913



244

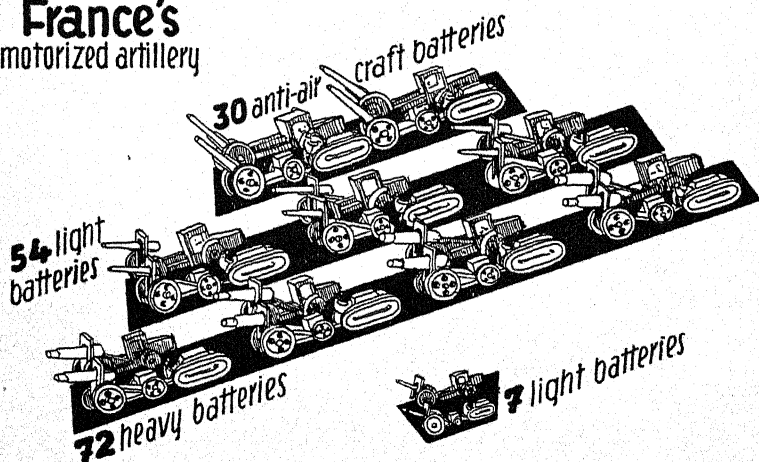


1931

DLD

France's heavy artillery in 1913 and 1931

France's motorized artillery



DLD

Germany's motorized artillery

Motorized artillery in France and Germany

ostensibly merely for the purpose of having strong closed units immediately ready, in case of colonial and other overseas enterprises, so as to relieve white troops. However, in this arrangement another idea must have been no less decisive, *vz.*, to have, besides the frontier divisions, in peace time an additional strong contingent of troops in Europe, mobile, and always available, materially increasing still more the national defence of European France. But, be that as it may, so much is certain that those divisions being permanently stationed in European France mean a 25 % reinforcement of the French standing army. They must, consequently, be taken into account in appraising its war power and war preparedness. It is all the more necessary to take them into account as the two North African divisions are considered élite troops and as the five colored divisions all together, consisting of the most diversified races, represent an experimental troop. With them the availability of colored troops in European climates may be tested, while the French commanding officers may familiarize themselves with handling colored units.

The French standing army, then, has in Europe 13 infantry divisions and all of its cavalry divisions actually more or less mobile in peace time. Its remaining 13 infantry divisions are organized in such a way as to make them mobile, too, within a few days. The 12 white home divisions are called normal divisions. They serve in peace time to train the masses of recruits. They are, at the same time, formations of transition for the reserves, and, in war, frames for organizing the war divisions. In contrast to the frontier divisions their *état* is low. Since an annual class of white recruits is not sufficient to complete 20 divisions, one third of their sections are only frame formations. A battalion of infantry, *e. g.*, consists of two complete companies and one frame company; a machine gun company consists of two complete and one frame platoons. Each company and each machine gun platoon is, within 18 months, a complete formation for 12 months and a frame formation for six months. According to the semi-annual draft in France, one of the complete formations contains the recruits, while the other contains the fully trained men who have served more than six months.

The organisation of the normal divisions, then, is adjusted to the one year term of service and to the semi-annual draft. It enables France to make of these divisions, too, war divisions within a very short time. It is an additional, and very essential, aid in speeding up the transition of the French peace army to a war army, and in

Total strength, according to the budget of 1929: 697820

D.L.D.



Home countries:

of this number there are 194372 colored.

North Africa (Morocco, Tunis, Algiers) 104000 (70000)



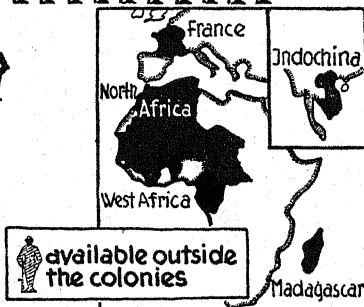
West Africa 48000 (20000)



Indochina 30270 (16777)



Madaqascar 11350 (3100)



The colored contingent of the French army

Ratio of colored and white troops in French army

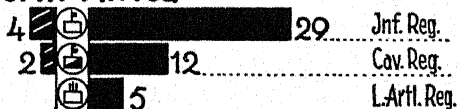
White

Colored

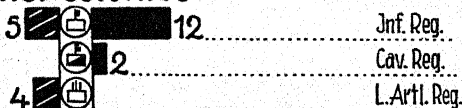
Europe



North Africa



Other colonies



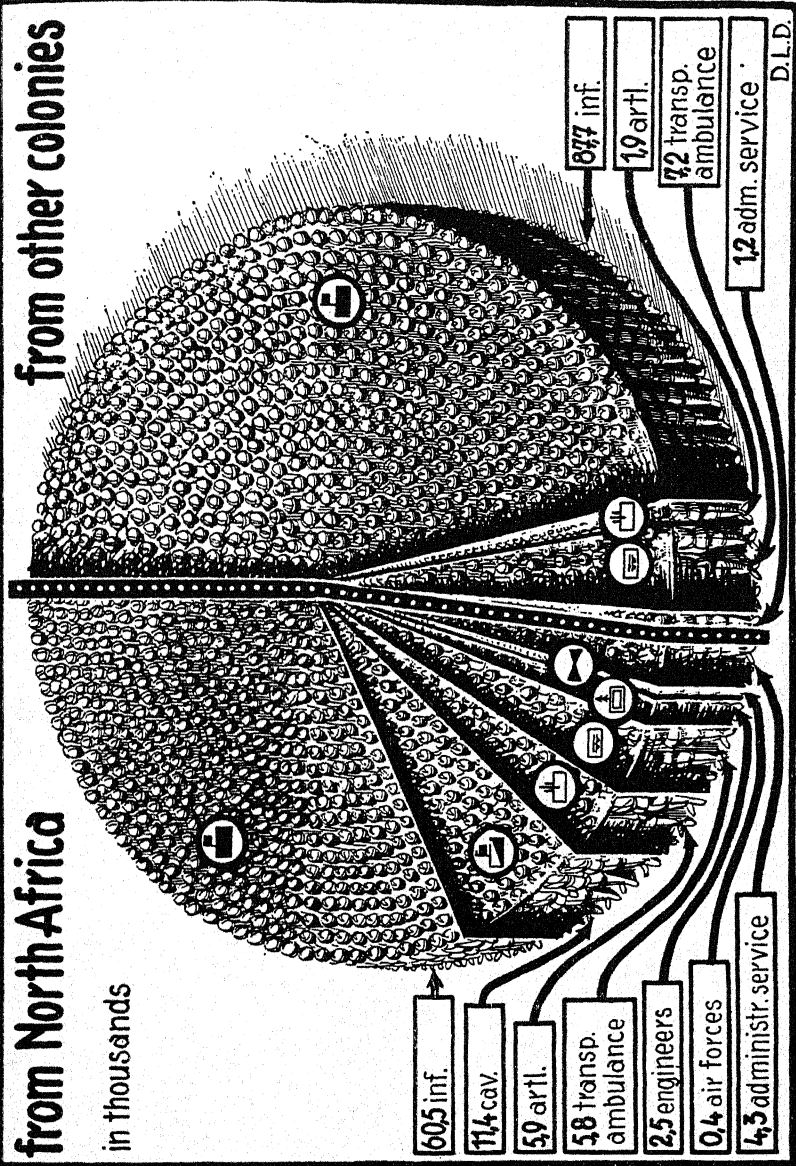
D.L.D.

White troops in the colonies, colored troops in France

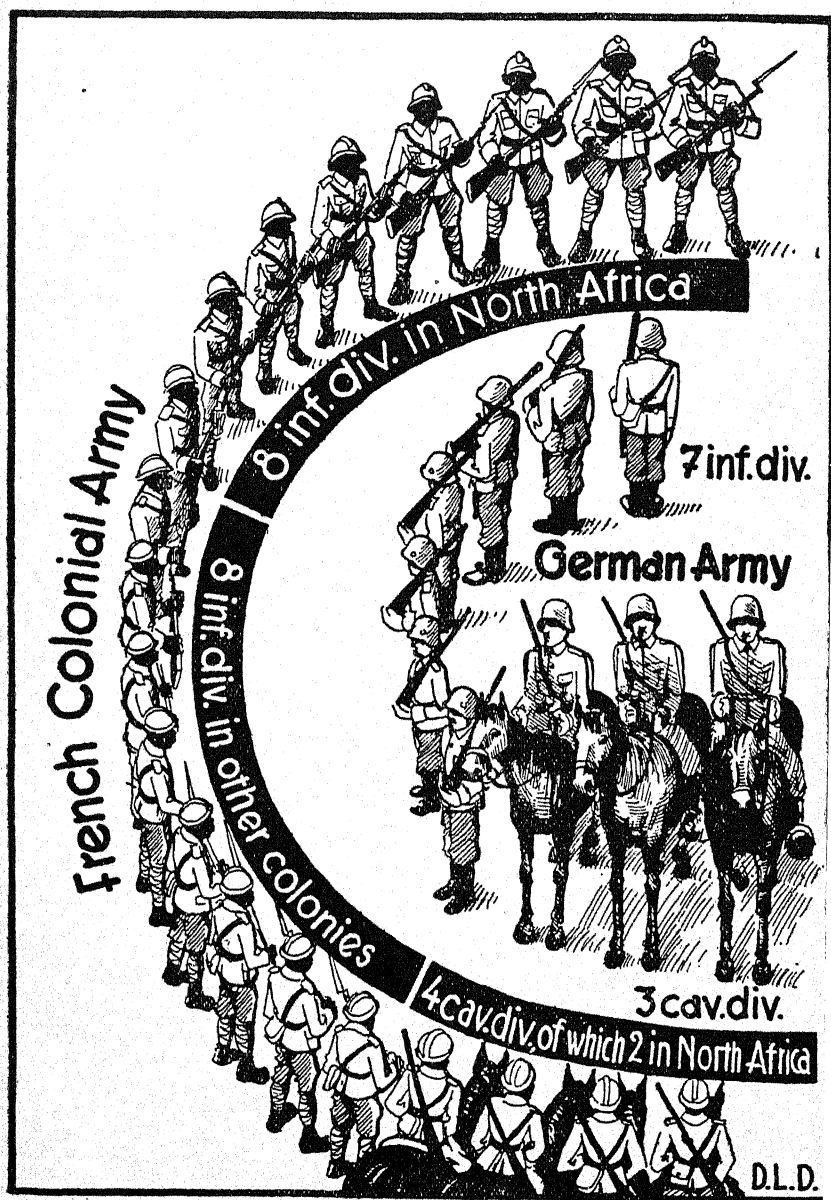
from North Africa

in thousands

from other colonies



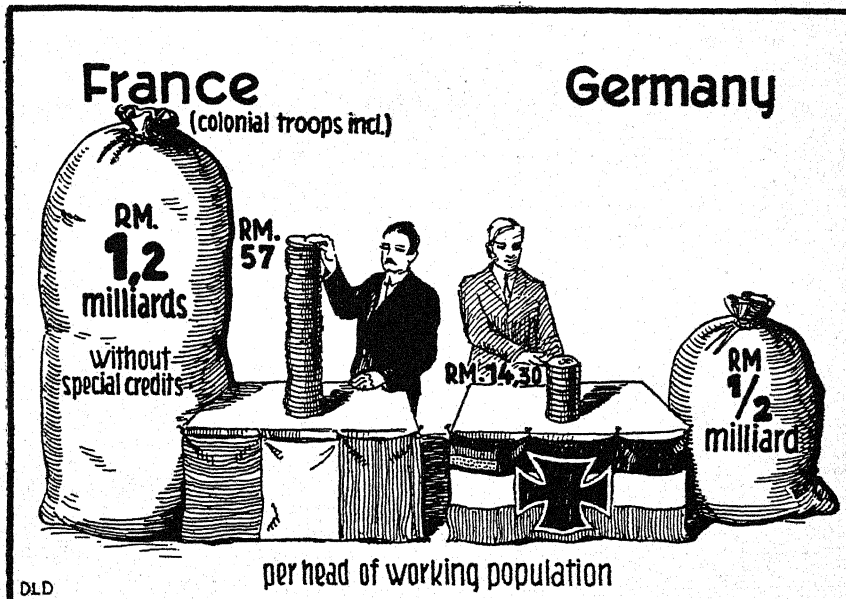
Distribution of colored troops among the several units



France's colonial army as compared to the German Federal Army

giving it a **maximum degree of preparedness for war**, although the term of active service is short and the numerical strength of the annual classes is relatively low.

Preparedness is increased by the military division of French territory and by the high contingent of professional soldiers, especially of officers and non-commissioned officers. The 20 military regions furnish an additional 20 infantry divisions within a few days



Expenditures for army of France and Germany in 1931

after mobilisation, while the high contingent of officers and non-commissioned officers makes it possible to provide them to a large extent active officers and non-commissioned officers. **The number of active French officers alone is more than eight times the number of German officers. The number of active non-commissioned officers is many times as large as it was in 1913.** Besides, the gendarmerie and the officials of the forestry and customs service in France are, different from Germany, of a perfectly military character in peace time. All of that, however, really forms a part of mobilisation which we shall discuss more fully in another chapter.

All things considered, the French peace army appears to be really enormously superior to the German army in every respect. This

superiority is given additional weight by the fact that the military alliance of France with Belgium, Poland, Czechoslovakia, Roumania, and Yugoslavia must be taken into account, while Germany does not possess any allies at all. Even when the Italian army is added to the German, France's superiority remains, for in case of war, both Germany and Italy would no doubt have to face the military allies of France.

Numerical strength, equipment, and preparedness of the German army are in no way comparable to the French army. The latter is in the position not only to protect its mobilisation along its own frontiers, but also to carry the war into the enemy's country from the start. It can force a decision against Germany without even waiting for the mobilisation of the „nation armée“. The German army, on the other hand, in its present condition, cannot even protect the frontiers. It is much inferior, not only to the French army alone, but also to the armies of the French allies bordering upon Germany.

III.

The navies

The German navy is, like the army, a creation of the Treaty of Versailles. Its military provisions limit the personnel of the German navy, as mentioned above, to only 15 000 men, officers included; the number of ships to only six ships of the line, six cruisers, twelve destroyers, and twelve torpedo boats. It is further provided that, except for losses incurred, ships of the line and cruisers must not be replaced before 20 years, destroyers and torpedo boats not before 15 years from the date of launching; that new ships of the line and cruisers must not exceed a tonnage of 10 000 and 6000 respectively; that destroyers and torpedo boats must not have more than 800 and 200 t. respectively; that the ships in active service must have, on board or in reserve, only such quantities of arms, munitions, and war material as fixed by the Allied and Associated Powers. **Submarines of any kind and military planes are forbidden.** These provisions were modified by later agreements to the extent that, in addition to the provisions of the Treaty, Germany was allowed a stock of reserves, viz., two ships of the line, two cruisers, four destroyers, and four torpedo boats. All ships and the entire stock of arms, munitions, and war material, exceeding the figures fixed, had to be surrendered or destroyed, the same as in the case of the army.

Except for a number of special ships, not included in the Treaty, the German navy must not have more than eight ships of the line, eight cruisers, 16 destroyers, and 16 torpedo boats. However, only the contingent originally provided for by the Treaty, must be in active service: six ships of the line, six cruisers, twelve destroyers, and twelve boats. All of these ships were more or less completely antiquated, when the Treaty of Versailles was enacted. Nevertheless, not even one half of their number have been replaced since, including two cruisers building. It is uncertain when the rest of them will be replaced. The plan of construction which the Federal Government submitted to the Reichstag with the budget of 1931, covering the period until 1936, provides for only three ships of the line, four destroyers of the reserve, and five torpedo boats, besides a few small special boats. If that plan will ever be carried out by 1936, the German navy will even then to a large extent consist of units completely obsolete.

The process of ageing necessitated of late the elimination from service of a number of ships so that the German navy at the present time has only six ships of the line, six cruisers, 26 destroyers and torpedo boats, including the two armoured cruisers building. In other words, the total strength of the German navy is only 38 ships and 124 876 tons — far below even the limit set by the Treaty of Versailles and subsequent agreements, which would allow Germany 48 ships in all, with a total displacement of 144 000 t.

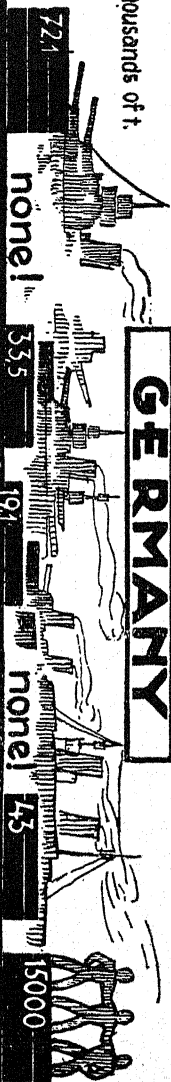
The French navy, on the other hand, according to the status of 1931, has a personnel of nearly 4000 officers and officials of military rank, as well as almost 60 000 warrant-officers, non-commissioned officers, and men, including 680 men of the marine infantry and coast-artillery. The number of ships, including those building, but without the numerous special ships, is nine capital ships, one mother ship, 25 cruisers, 92 destroyers and torpedo boats, and 110 submarines, i. e., 237 ships in all, with a total displacement of 642 732 t. **Its personnel, then, amounts to nearly four times, the number of its ships to more than six times, and is total tonnage to over five times the respective figures in the German navy.**

This enormous superiority becomes still more evident on consideration of the fact that 194 out of the 237 ships of the French navy — six ships of the line, the mothership, 19 cruisers, 81 destroyers and torpedo boats, and 87 submarines — with a total displacement of 503 198, are **modern**, all of them, having been built as late as after 1925, the six ships of the line excepted. The German

Battle ships
plane carriers
cruisers
destroyers
subm.
special ships
personnel

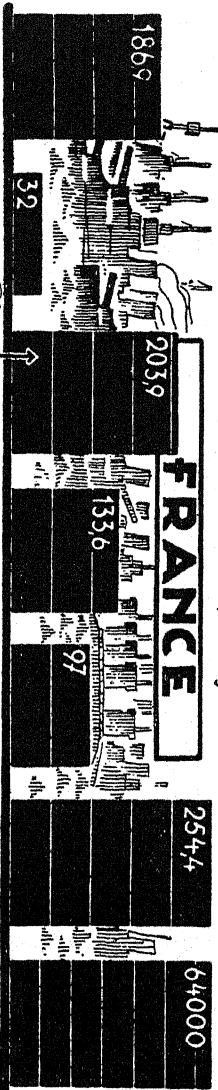
thousands of t.

GERMANY



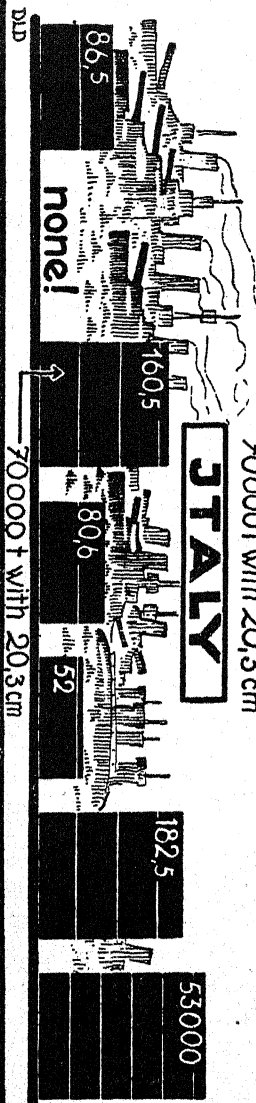
no cruisers with 20,3 cm guns

FRANCE



70000 t with 20,3 cm

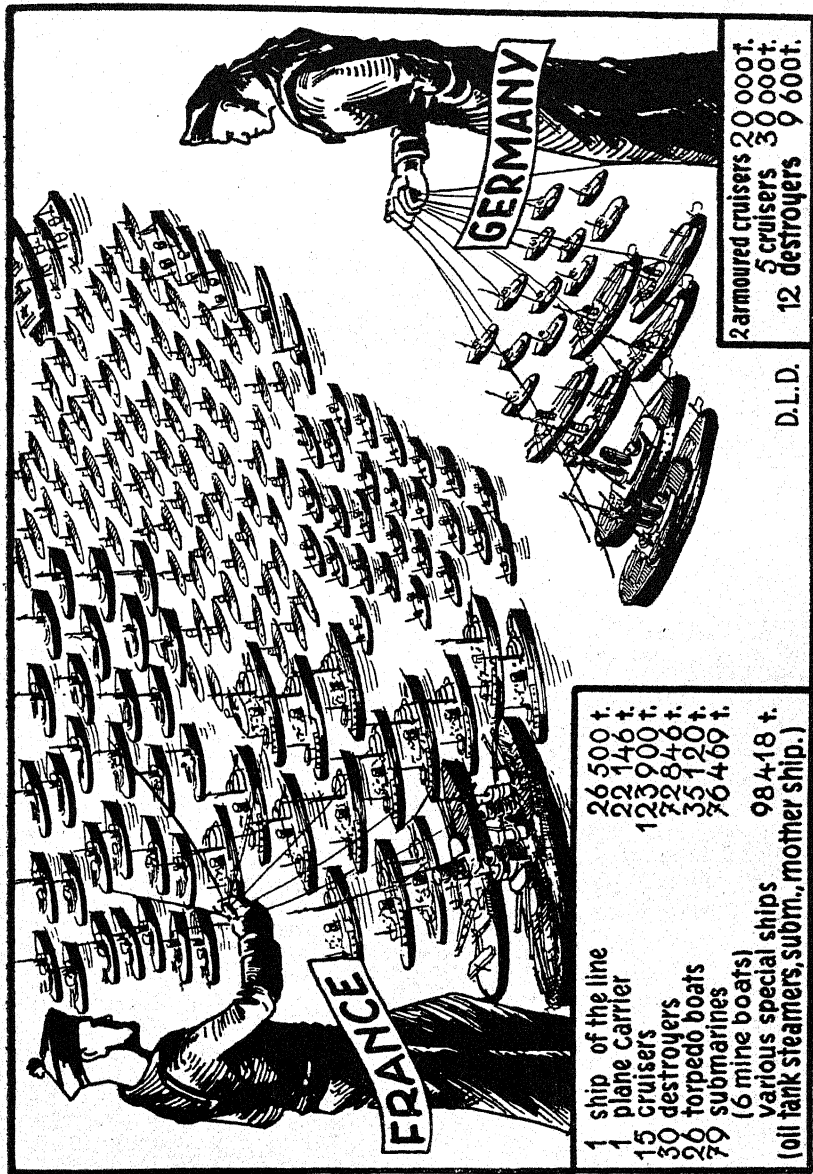
ITALY



70000 t with 20,3 cm

The navies of France, Germany, and Italy

Did



Construction of new ships in France and Germany since 1922

ships of the line, except for the two armoured cruisers under construction, all date back to the time between 1903 and 1906, while six of the French ships of the line were built between 1911 and 1913, the remaining three in 1909. The French ships, consequently, in contrast to the German ships, are only approaching now, or will approach later, the maximum age of 20 years, as stipulated by the Treaty of Versailles and by the Washington Conference of 1921/22. Finally, besides their age, the navies must be compared as to size, arming, and speed of the several categories, as well as to their equipment with guns and torpedo tubes.

Such comparison leads to the following results:

German ships of the line: displacement, 13 200 t; guns, four of 28 cm calibre, 12 of 15 or 17 calibre; four anti-air-craft guns; four torpedo tubes, average speed 18 miles.

French ships of the line: displacement, between 18 890 and 23 500 t; guns, ten of 34 cm calibre and 18 of 13,8 cm calibre; four anti-air-craft guns; four torpedo tubes; average speed 19 to 21,5 miles.

German cruisers: not one cruiser with 20,5 cm guns; only five cruisers with a tonnage of 6000; armament, generally, nine 15 cm guns; four anti-air-craft guns; twelve torpedo tubes; maximum speed 32 miles.

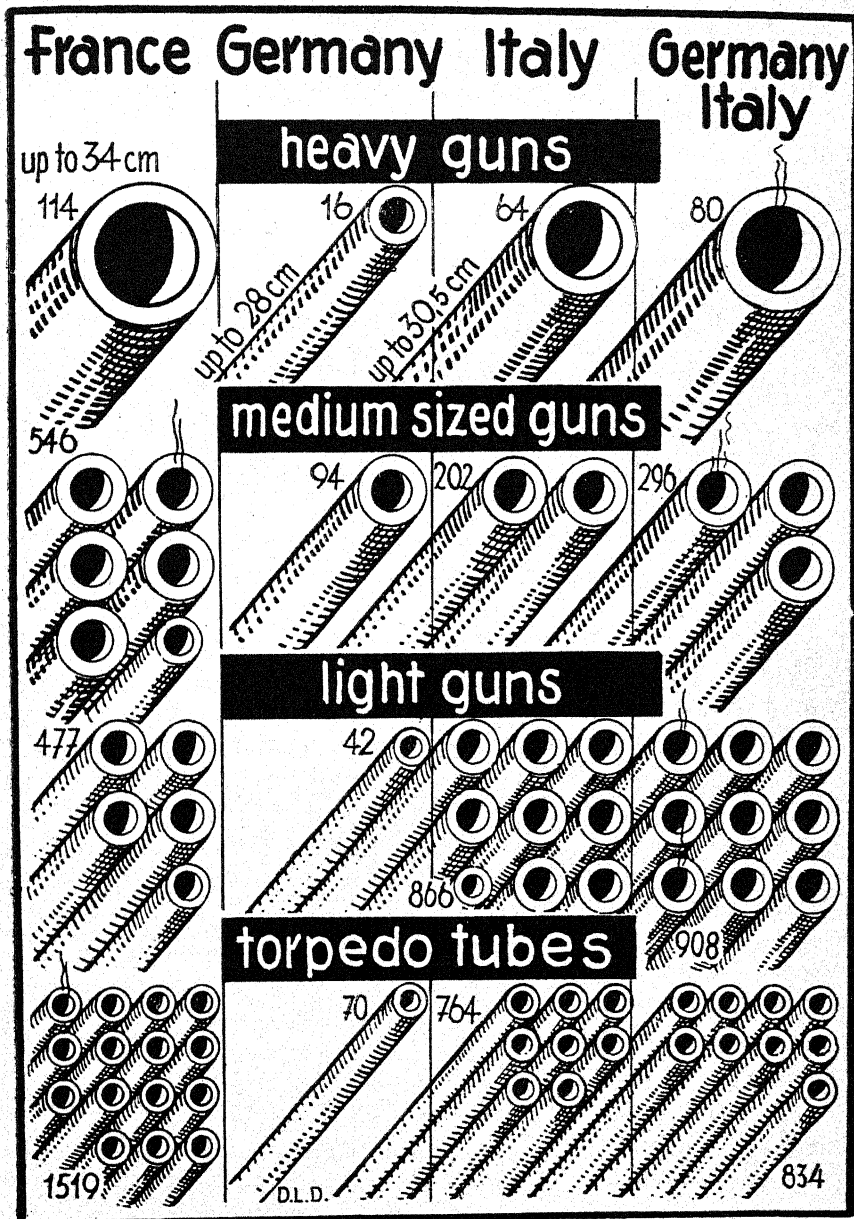
French cruisers: seven cruisers with a minimum displacement of 10 000 t; guns, eight 20,3 cm calibre; eight anti-air-craft guns; six torpedo tubes; speed from 32 to 36,1 miles; at least eight cruisers with a displacement of 6600 to 9350 t; guns, eight to nine 15,5 cm calibre; four to six anti-air-craft guns; and, generally, 12 torpedo tubes; speed, up to 34 miles.

German destroyers: displacement, 800 t; guns, three 10,5 cm; six torpedo tubes; speed, up to 34 miles.

French destroyers: displacement, 2100 to 3200 t; guns, generally, five 13,8 cm calibre; five anti-air-craft guns; six torpedo tubes; speed, up to 43,3 miles.

German torpedo boats: only 14 obsolete boats; displacement, 640 to 800 t; guns, generally, two 10,5 cm calibre; two torpedo tubes; speed, maximum 31 miles.

French torpedo boats: 26 boats built after the war; displacement, generally, 1500 t; guns, generally, four 13 cm calibre; two anti-air-craft guns; six torpedo tubes; speed, up to 35 miles.



Number and calibre of guns in French, German, and Italian navies

All these figures speak a language more than plain. However, there are the submarines too. As stated above, Germany was forbidden to have any submarines at all. The figures for the French fleet of submarines are these:

One submarine cruiser; displacement, 2800 t; two 20,3 cm guns; 14 torpedo tubes; speed, 18 miles.

55 submarines of the first class; displacement in general at least 1500 t; in general, one 10 cm gun, one anti-aircraft gun, and 11 to 12 torpedo tubes; speed, up to 18 miles.

44 submarines of the second class; displacement, 600 t (partly); at least one 7,5 cm gun, and, generally, at least seven torpedo tubes; speed, up to 14 miles.

10 submarine minelayers; displacement, in general, 780 t; one 7,5 cm gun; four to six torpedo tubes.

Regarding the equipment of both navies with guns and torpedo tubes as units, we arrive at the following parallel:

German navy: 16 heavy guns of 28 cm; 94 guns of medium and 42 guns of light calibre; 70 torpedo tubes.

French navy: 114 heavy guns, up to 34 cm; 546 guns of medium and 477 guns of light calibre; 1519 torpedo tubes.

A comparison of the German and French navies does not only show a great superiority of the latter with regard to the number of personnel and ships as a whole, but also with regard to age, size, arming, and speed of the individual ships. In order to make the comparison complete, we shall have to take into consideration those parts of the two navies that are not limited by treaty, particularly the various special ships; finally the military value of the two merchant marines. In another connection — cf. „*Potentiel de Guerre*“, chapter IX, — it was demonstrated that the German merchant marine does not possess a military value, while the French merchant marine does to a high degree. As to numerical strength and tonnage of those parts of the two navies not subject to limitations, the French navy again is much stronger than the German: 210 ships (with 13 oil tank steamers), a total tonnage of 254 422, as against only 92 ships and a total tonnage of 43 095.

Like the army, the French navy is in every respect so vastly superior to the German navy that it cannot be said to belong to the same category at all. That superiority remains, even considering the peculiarities of France's maritime situation, her doublefaced sea frontage and extended coasts, her gigantic colonial empire, and the

Superiority of French navy to German navy

to Italian navy

to German and
Italian navies
combined

D.L.D.

tonnage
number of ships
heavy guns
medium sized guns
torpedo tubes

Superiority of French navy compared to German and Italian navies

vital necessity of a secure connection with North Africa. For the fact is that Germany, cut off from the ocean, is even more unfavorably situated than France, from the point of view of maritime strategy. Furthermore, **France, with her 110 submarines is today the strongest submarine power. As regards fighting units, the French navy alone is stronger than the German and Italian navies put together, by ten ships and nearly 140 000 t, and, as to armament, by 34 heavy guns, 250 guns of medium calibre, and 685 torpedo tubes.**

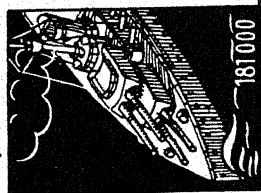
This enormous superiority of the French navy will be considerably increased during the coming few years. The building program of 1922, which is the basis of reconstruction after the war, provides for the following additions by 1942: besides numerous special vessels and 48 so-called „submarines for coast-defence“, 175 000 tons of ships of the line, 60 000 t of mother ships, 399 000 t of cruisers and torpedo boats, and 96 000 t of so-called „high-sea submarines“; in all 721 000 t. This superiority will not be lessened even if the program should be modified according to the provisions of the London Naval Convention of April 22d, 1930, and of the Naval Convention of March 1st, 1931, between Great Britain, France, and Italy.

The London Convention limits the tonnage for new ships of the line to 70 000 within December 31st, 1936. The British-French-Italian agreement, increasing the total tonnage for ships of the line, as granted to France by the Washington Conference of 1921/22, from 175 000 t to 181 000, limits the size of new constructions to 25 333 t, the calibre of their heavy artillery to 30.5 cm, and their number to two ships. Furthermore, the numerical strength of the French navy, within the same period, is fixed for mother ships at 60 000 t, for cruisers with 20.3 cm guns at 94 882, for cruisers with 15 cm guns and for destroyers at 240 340, and for submarines at 81 989 t.

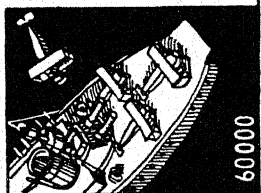
Aside of the fact that the British-French-Italian agreement, owing to French opposition, has not been enacted as yet, all the stipulations mentioned are valid only until December 31, 1936. They will hold good for Italy, too, with the difference, though, that the numerical strength of the Italian navy, with an equal tonnage for mother ships, is fixed at only 70 000 t for cruisers with 20.5 cm guns; at only 153 363 t for cruisers with 15 cm guns and for destroyers; at only 52 700 t for submarines. This ratio leaves to France a superiority of more than 140 000 t over the Italian navy

According to British-French-Italian-naval agreement there are allowed, by the end of 1931

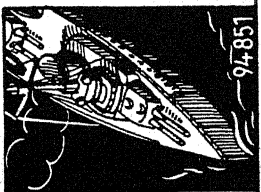
Ships of the line



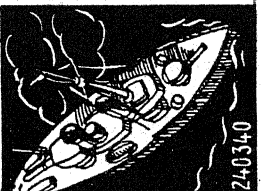
plane carriers



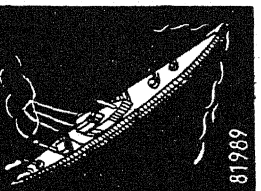
heavy cruisers



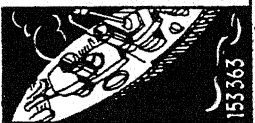
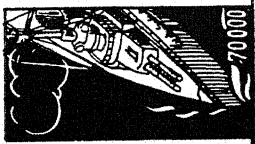
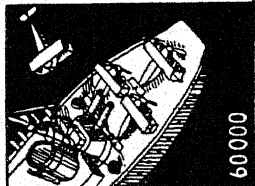
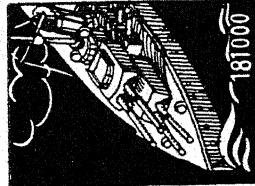
**light cruisers
and destroyers**



submarines



France

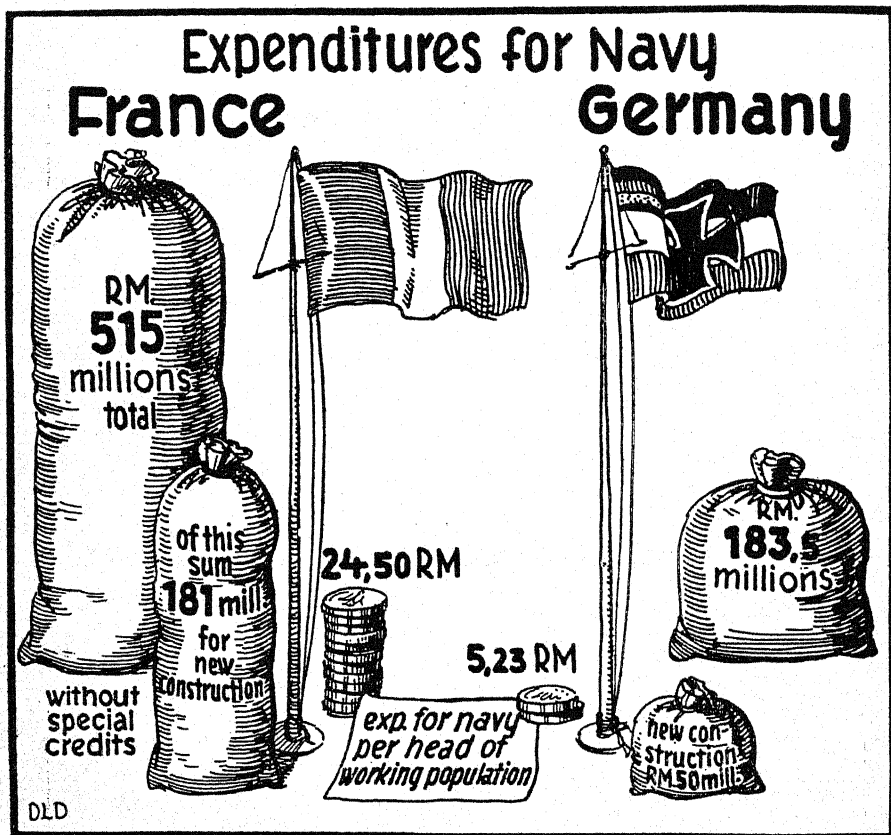


Italy

D.L.D.

Franco-Italian naval agreement of March 1st, 1931

and of more than 422 000 t over the present German navy; of more than 26 000 t over both navies put together, not counting the tonnage of the 48 „submarines for coast-defence“ which are excluded from the agreement. Estimating the average tonnage of those submarines at 600 t, the French navy consequently retains a



Naval expenditures of France and Germany in 1931

superiority of actually at least 54 800 t over the combined Italian and German navies, even in the case that the British-French-Italian naval agreement should sometime be enacted after all.

An additional point of consideration is this that **France has really started replacing her obsolete ships of the line.** The first vessel of this kind was approved by the Chamber on July 10th, 1931. Its size is fixed at 26 500 t, i. e., by nearly 3300 t more than

was provided for in the British-French-Italian agreement. Its gun calibre and speed were not indicated officially, but mentioned to amount to 33 to 34 cm, and about 30 miles respectively.

The new French ship of the line, which is to be named „Dunkerque“, will be far superior to the prospective German cruisers. It will, therefore, help maintain the general superiority of the French navy to such a degree that neither the German nor the Italian navy, nor the two navies combined, will at all be able to compete.

IV.

Air forces and air defence

The Treaty of Versailles forbids Germany to maintain any kind of air forces, either in the army or in the navy. **France, on the other hand, possesses the strongest air force in the world.** It is divided into the air forces of the army, of the navy, and of the colonies.

According to the report of the French government to the League of Nations of September 17, 1931, the army air forces have, without the officers, an active strength of 32110 men; the marine air forces, including the officers, have 476, and the air forces in the colonies have 8398 men. The army air forces consist of the following squadrons: 44 observation, 34 chasers, 17 day bombers, 12 night bombers, i. e., in all 107 squadrons with 1240 air planes and, besides, six aviation batallions combined in two aviation regiments. The chaser squadrons each have 15, the observation and bomber squadrons have 10 planes each. The observation and chaser squadrons form three air divisions and an independent air brigade with eight air regiments and one air group in all. Since August 28th, 1930, the bomber squadrons have been combined in a special aviation group of the main reserve, „groupement d'aviation de réserve générale“, with two day bomber regiments and two night bomber regiments in all. The staff of the group is stationed in Paris, one regiment each of day bombers and night bombers is stationed directly on the German border.

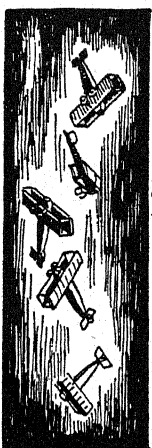
The air divisions and the several regiments differ as to strength and organisation. Divisions have both observation and chaser squadrons, as well as one or two aviation batallions. Regiments are in part mixed of observation and chaser squadrons, in part they

4950 Air planes

Training planes 2200

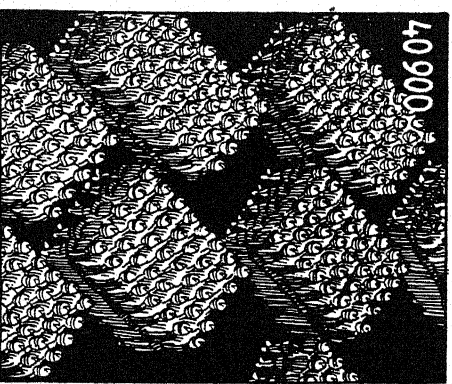
reserve 1000

first line 1750

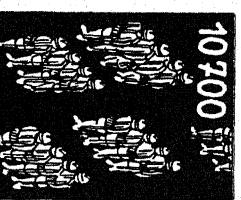


thereof near
German border 705

Men



40 900



10 700



2 200



3 500



1 500

men

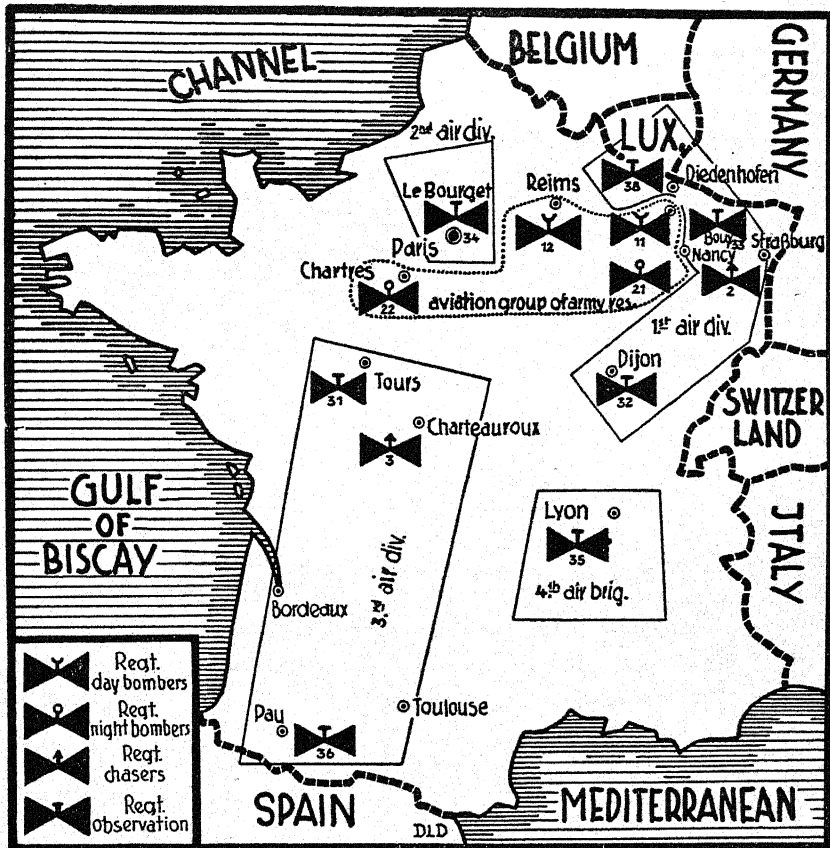
non-commissioned officers

flying

DAD

French air forces, numerical strength of planes and personnel

are uniformly composed of squadrons of one kind or the other. Strongest in number is the First Air Division in the terrain Metz—Diedenhofen—Strassburg—Dijon—Nancy with three air brigades, each with one aviation battalion and two air regiments, 22 obser-



Distribution of army air forces in France

vation and 17 chaser squadrons, 475 planes in all. The Second Air Division near Paris is the weakest, having two aviation battalions and one air regiment, eight observation and three chaser squadrons, 125 planes in all. The Third Division is stationed in the terrain of Tours—Chateauroux—Toulouse—Pau—Bordeaux; the independent air brigade near Lyon. The former is composed of an air brigade consisting of two aviation battalions and one air group in Pau with

44 squadrons
440 planes

Number of squadrons and active planes

34 squadrons
510 planes

17 squadrons
170 planes

12 squadrons
120 planes

11 squadrons
211 planes

34 squadrons
340 planes

observation chaser day bomber night bomber miscellaneous observation chaser

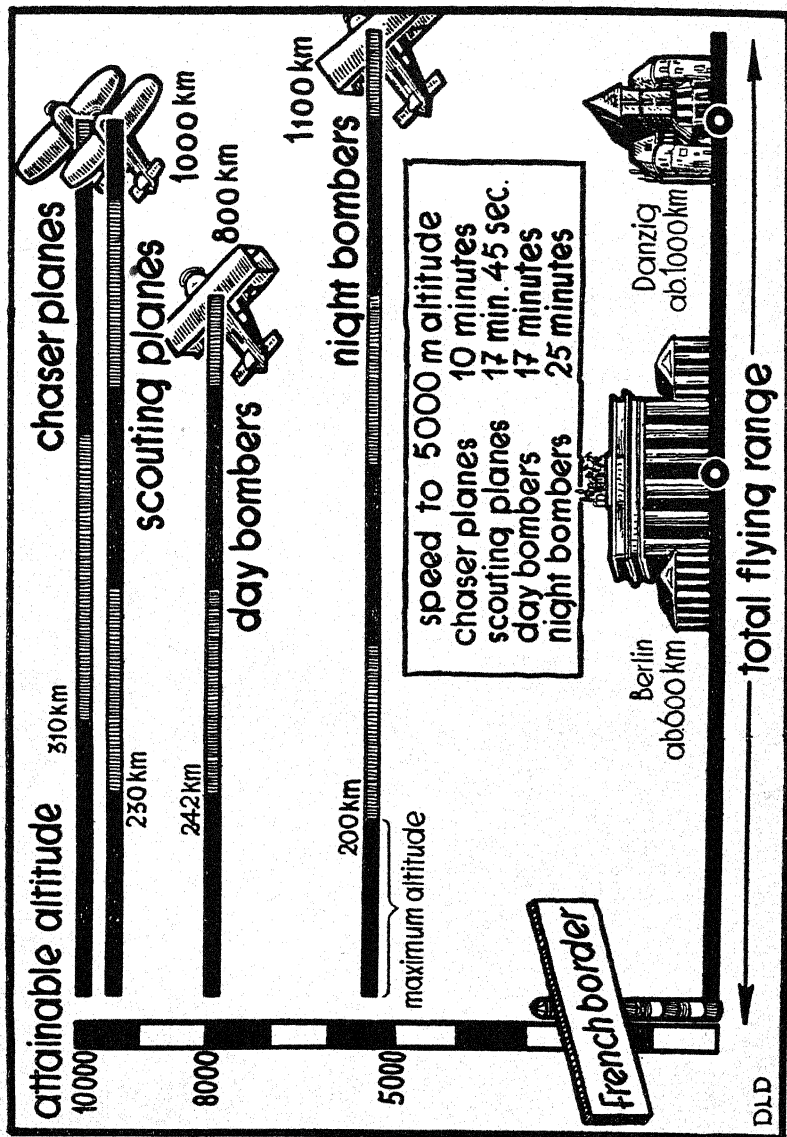
DLD

Army

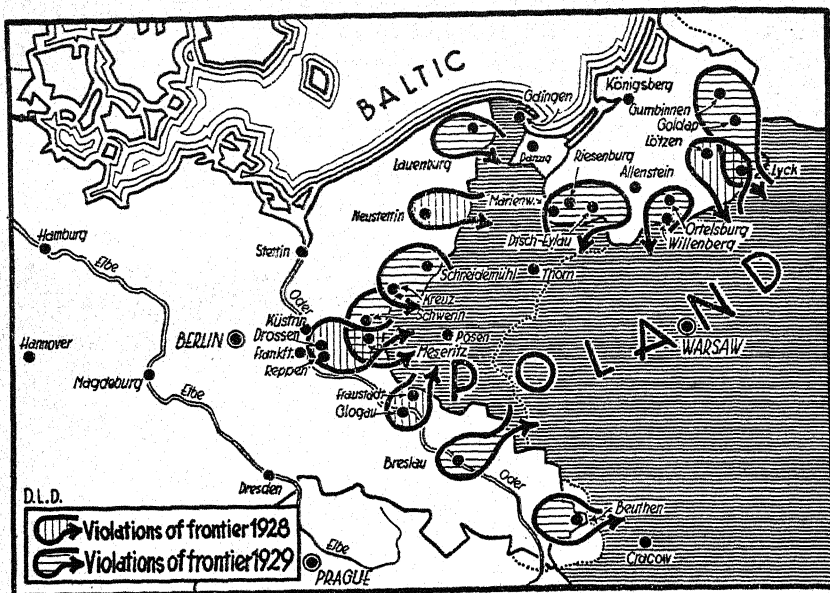
Navy

Colonies

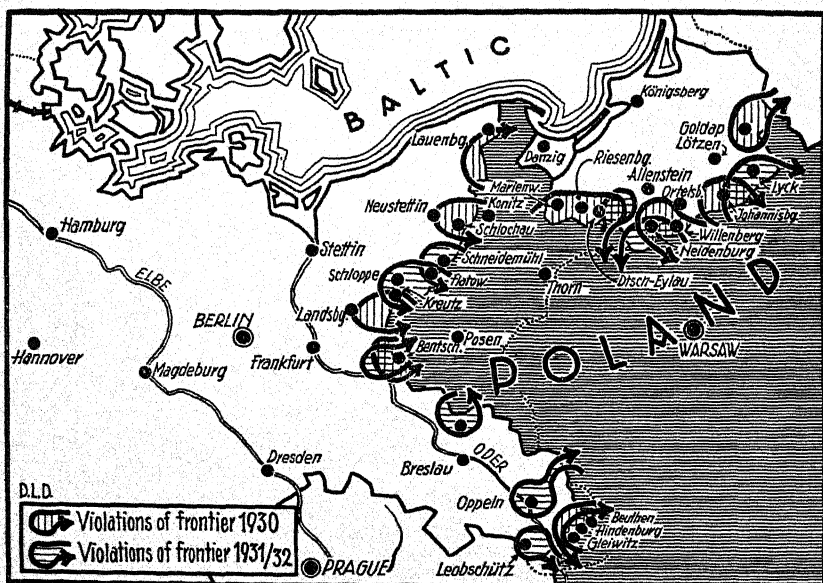
Organisation and strength of French air forces



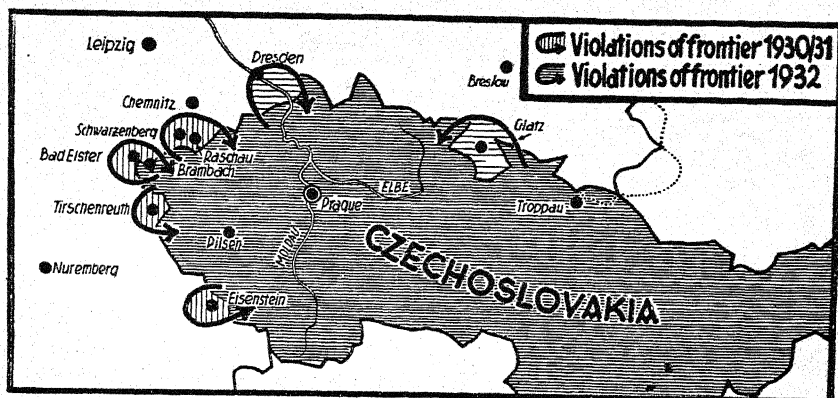
Efficiency of French military planes



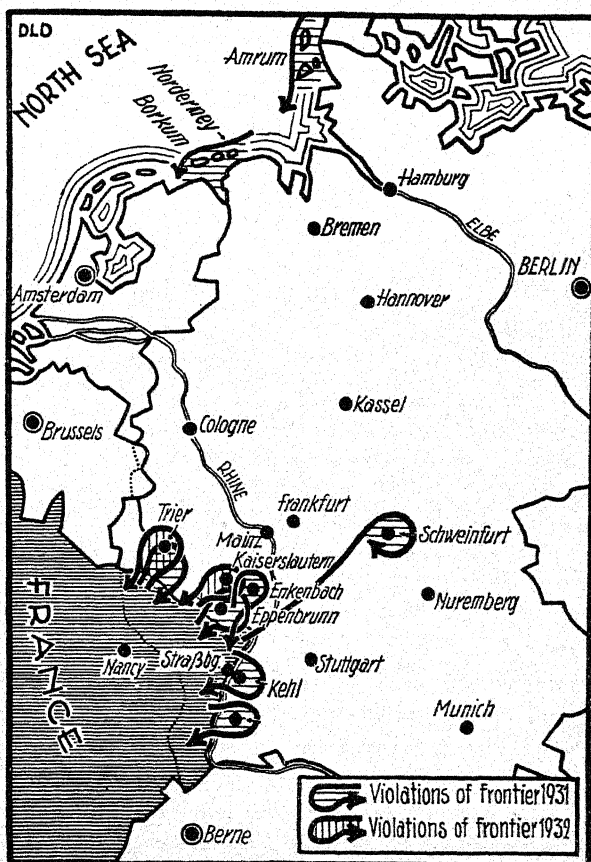
Violation of Germany's air sovereignty by Polish military aviators,
in 1928 and 1929



Idem, in 1930 and 1931/32

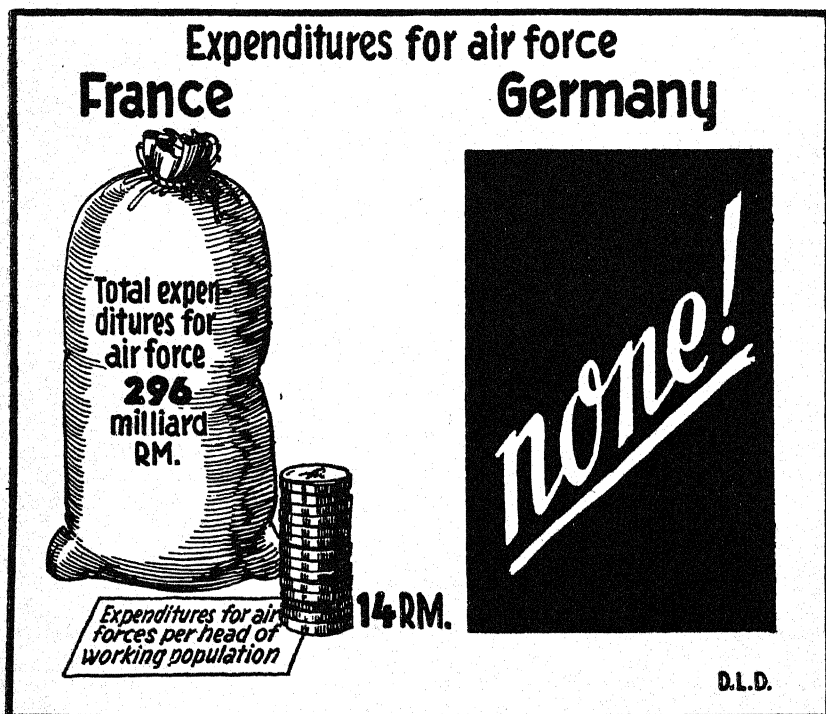


Idem, by Czechoslovakian military aviators, in 1930/31 and 1932



Idem, by French military aviators in 1931 and 1932

two observation squadrons, plus two independent air regiments with a total of six observation and ten chaser squadrons; altogether, then, of 230 planes. The latter consists of a mixed air regiment with a total of six observation and four chaser squadrons, i. e., 120 planes in all.



French expenditures for military aviation in 1931

The marine air forces consist of three marine land squadrons and eight sea plane squadrons, 125 planes altogether, and of 86 planes on ships. Of these, there are three squadrons with 40 planes on the air plane carrier „Béarn; two squadrons with 26 planes in all on the mother ship „Commandant Teste“, and 20 planes on various cruisers, 211 planes all told. The air forces in the colonies have 34 squadrons in all, with a total of 340 planes. The colonial squadrons are composed of observation, chaser, und bomber planes mixed. Two squadrons each are stationed in West Africa, in Madagascar, in Tonking, and Cochinchina; eight squadrons each in Syria and Algiers, and ten squadrons in Morocco. The

squadrons in Syria, Algiers, and Morocco are placed under separate air commands; those in Syria and Morocco are, besides, grouped in one air regiment each, while in Algiers and the other colonies two squadrons each form one air group.

The French air forces, consequently, all told have an active personnel of about 40 900 men with at least 2200 officers, 10 700 non-commissioned officers, and a personnel of aviators of at least 3500 pilots and 1500 observers and machine gunners. Furthermore, they have an active stock of about 1750 planes, among which there are at least 840 observation, 480 chaser, and 390 bomber planes. Out of that number there are fully 220 observation, 255 chaser, and 230 bomber planes permanently stationed in the immediate vicinity of the German border, while only 210 observation, 195 chaser, and 60 bombing planes are in the interior of France.

The observation planes have a maximum speed of 230 km, a rising capacity of five km in 17 minutes, a flying range of at least 770 km, and a rising height of 7200 meters. The chasers have a maximum speed of 310 km, a rising capacity of six km in 13 minutes, a flying range of 1000 km, and a rising height of 9650 meters. The day bombers have a maximum speed of 242 km, a rising capacity of five km in 17 minutes, a flying range of 800 km, a rising height of 8000 meters, and a carrying capacity of 900 kgr. of bombs. The night bombers have a maximum speed of 200 km, a flying range of 1100 km, a rising height of 5400 meters and a carrying capacity of a 1000 kgr. of bombs. This active stock of planes is augmented by at least 1000 reserve planes, and 2000 planes for training, experimenting, and practising. Although these planes are, at least in part, no longer of absolutely the first quality, they are at any rate quite serviceable and safe, when used against Germany which has no protection from air attacks whatsoever.

The total stock of planes of the French air forces may be estimated at 5000, at least; which means that France is correctly said to be the strongest air power, by far, in the whole world. Numerically it is quite equal to the two great neighbouring air powers, England and Italy, combined. France, therefore, enjoys not only a maximum degree of security from enemy air attacks, but, first of all, the possibility of gaining decisive successes by an air offensive against the enemy country at the very beginning of a war. Such a possibility is of course strongest in case of Germany which has not only been denied any kind of military aviation, but, almost completely, even protection from enemy air attacks by means of

FRANCE

GERMANY

2,58 milliards
RM total expen-
ditures

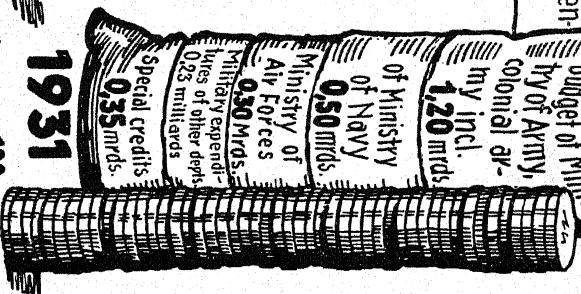


1913

DLD

72 RM per head of
working population

Budget of Minis-
try of Army,
colonial av-
my incl.
1,20 mlds



1931

120 DM per head of
working population

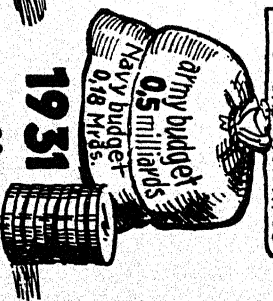
1,82
milliards RM
total expen-
ditures



1913

63 RM per head of
working population

0,683 milliards RM
total expenditures



1931

20 RM per head of
working population

Military expenditures of France and Germany in 1913 and 1931

anti-air craft guns. Germany has only a total of 81 of such cannons, in the fortress of Königsberg and in some coast fortifications. Besides, these guns must be perfectly stationary: they must not be mobile. France, however, has in her fortifications anti-air craft guns exceeding in number the German maximum many times, and, in addition, at least 750 mobile anti-air craft guns of which there are about 150 in service in peace time.

France not only possesses the strongest air force but, with it, also the strongest air protection in every respect. Her air forces are a menace to the security of Germany as great as can be imagined. Worse still, Germany is not even in the position to maintain in peace time her sovereignty in the air. It has been violated in the east by Polish military aviators at least 80 times since 1927; by Czechish military aviators at least 10 times since 1930, and, in the west, by French military aviators at least 12 times in the years of 1931/32.

V.

Trained reserves and stocks of material

By „trained reserves“ we understand those men who, after receiving military training in peace time, are transferred to the class of reserves. They are kept on record in the list of the authorities of control. They are under permanent control, legally subject to war service, and liable to be drafted any time.

By stock of material we understand such supplies of arms, munitions, equipment, and war material as are provided for the organisation of war formations, being kept ready for that purpose in depots or arsenals in peace time.

A number of countries, principally France and her allies, advocate the opinion that trained reserves and stores of material be not considered measurable and capable of limitation; that they should consequently not be counted with the actual but with the potential factors of armament, and that they should therefore be excluded from possible reductions of armament. In support of such opinion it is further asserted that neither trained reserves nor stocks of material can be numerically defined nor regarded as essential factors for the efficiency of national preparedness. However, assertions of that sort, absurd as they are in themselves, directly belie prominent French statesmen, generals, and politicians who repeatedly

emphasized the value of trained reserves and stocks of material for the military power of France.

Reservists, trained and subject to war service, are legally and actually soldiers just as much as men in active service, with only one difference, viz., that they do not live in barracks, when mobilisation begins, but are on furlough, at is were. At any rate, they are equally available and equally well trained as the active troops, therefore at least equally valuable. Their latest classes are even militarily superior to men who, having served but a few months, are not perfectly trained. It is therefore quite absurd to deny that the reservists are soldiers and that they should be excluded from estimates of national armaments. More absurd yet is the assertion that their number cannot be determined accurately, and consequently not be estimated. The indisputable fact is that they are on record and, in peace time, subject to a permanent military control. The same thing is true of the war material kept ready in peace time in depots and arsenals. Why should not they be numerically defined and appraised as factors of national preparedness? They are, in peace time, actually existing and even administered by military authorities. They are drawn upon as soon as mobilisation starts, and, therefore, in the same way available for war service as the trained reserves.

Trained reserves and stocks of material are no doubt parts of peace armament in any case. If desired, they can easily be estimated and must therefore be taken into account, when the armaments of two countries are compared with each other. This is particularly necessary in the case of two countries which differ as much from each other as do France and Germany, both with regard to their military systems and to the conditions of their national defence. On the basis of our definitions of trained reserves and stocks of material we arrive at the conclusion that **Germany does not possess trained reserves nor any kind of stores of material, owing to the military system and all other restrictions imposed upon her by the Treaty of Versailles.**

As stated before, officers, non-commissioned officers, and men discharged from the present army, either before or after the expiration of their term of service, must not be kept on record or otherwise be controlled, nor receive further military training. This restriction was made retroactive for the members of the old army. The former muster-rolls all had to be destroyed.

There is no chance for Germany to train reserves or to create

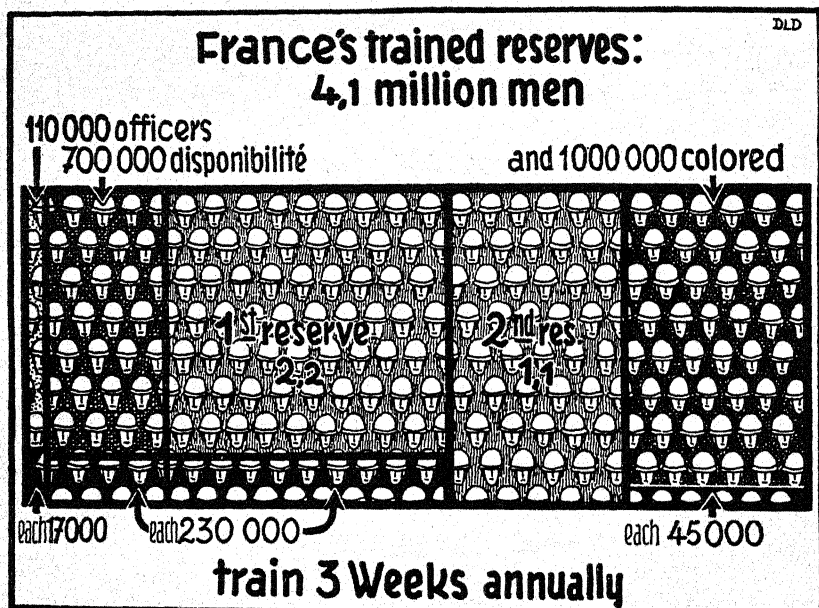
a class of reservists for strengthening her national defence in case of war. She must not have any stores of arms, munitions, equipment, and war material beyond the quantities prescribed for her small army. It has been said before that those quantities have been reduced to the utmost so as not to be sufficient for even the most urgent demands. Material left after the war had to be surrendered or destroyed. To mention but a few figures, there were more than 100 000 machine guns, over 80 000 guns and mine-throwers, and over 14 000 air planes. The situation of France is entirely different.

Her trained reserves number at least 4.1 million men, 700 000 of whom are subject to „disponibilité“, not counting the numerous colored soldiers who must not be forgotten. France furthermore has at least 110 000 reserve officers and an equal number of reserve non-commissioned officers. Besides, she is able to maintain and even to improve the active training of her reserves by means of legally prescribed periods of additional training. Since 1927 France annually called out for such practice training about 17 000 officers and 230 000 white non-commissioned officers and men, besides from 40 000 to 50 000 colored men.

As to the quantities of material stored in depots and arsenals, exact figures are naturally missing. However, we may get an approximately correct idea, if we consider the number of presumably new formations in case of war, besides remembering the quantities of arms, munitions, and war material Germany surrendered or destroyed after the war by order of the Allies. It may be assumed that the supplies remaining to France after the war, were hardly smaller. With the aid of America, France had been most amply provided with material of every description. Besides, she took over the entire equipment of the American army, when it was withdrawn from Europe in 1919.

Much of that material may have become obsolete in the course of years, or given to France's military allies in Eastern Europe, or sold to other countries. Nevertheless, it is safe to assume that **the quantities of stored material in France are today at least twice as large as the material used by the active army**, that is to say that there are hardly less than at least again 16 000 light and 17 000 heavy machine guns, 800 mine-throwers, 1300 light and 1000 heavy guns, 1700 tanks, and probably more than 3000 war planes. It is likewise safe to assume that these supplies are not only in perfect condition, ready for immediate use, but that supplementary purchases have been made in the course of years.

France, therefore, possesses reserves of men and material as hardly any other country in the world. She is in the position to raise her peace army by calling out the reserves to war strength at once, to increase it by 20 reserve divisions within a few days, and to add to these, within a very short time, at least 20 more divisions as a third wave. It is no less important that France can



Strength and organisation of trained reserves in France

arm and equip all of these divisions. This has been made possible, besides the stock of material, by her strong, highly developed war industry. Having discussed it fully in chapter VII of „Potentiel de Guerre“ (Germany and France) we need not go into details here as regards the extent, efficiency, and importance of France's war industry.

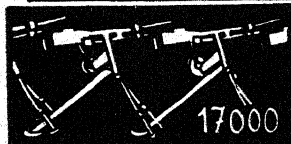
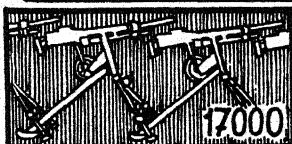
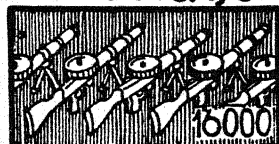
Germany, on the other hand, is unable to do anything. She is left without resources, even if we take the idea of „trained reserves“ in a wider sense than we did above; if we include anybody who ever had a military training at all. Although knowing better, the French, for obvious reasons, ascribe to Germany „trained reserves“ in the persons of officers, non-commissioned officers, and men discharged from the present army as well as of the veterans

War material

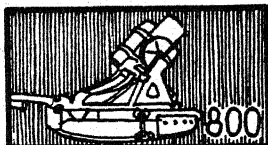
in storage

in use

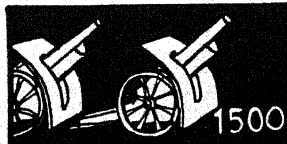
light
machine guns
heavy



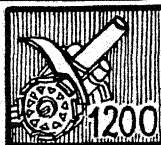
mine-throwers



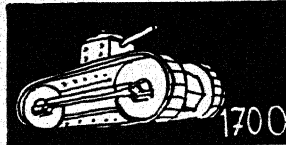
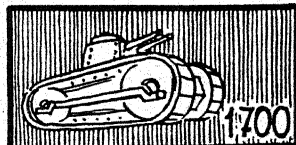
light guns



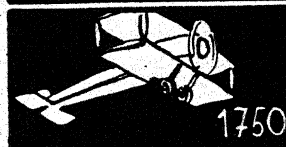
heavy guns



tanks



air planes



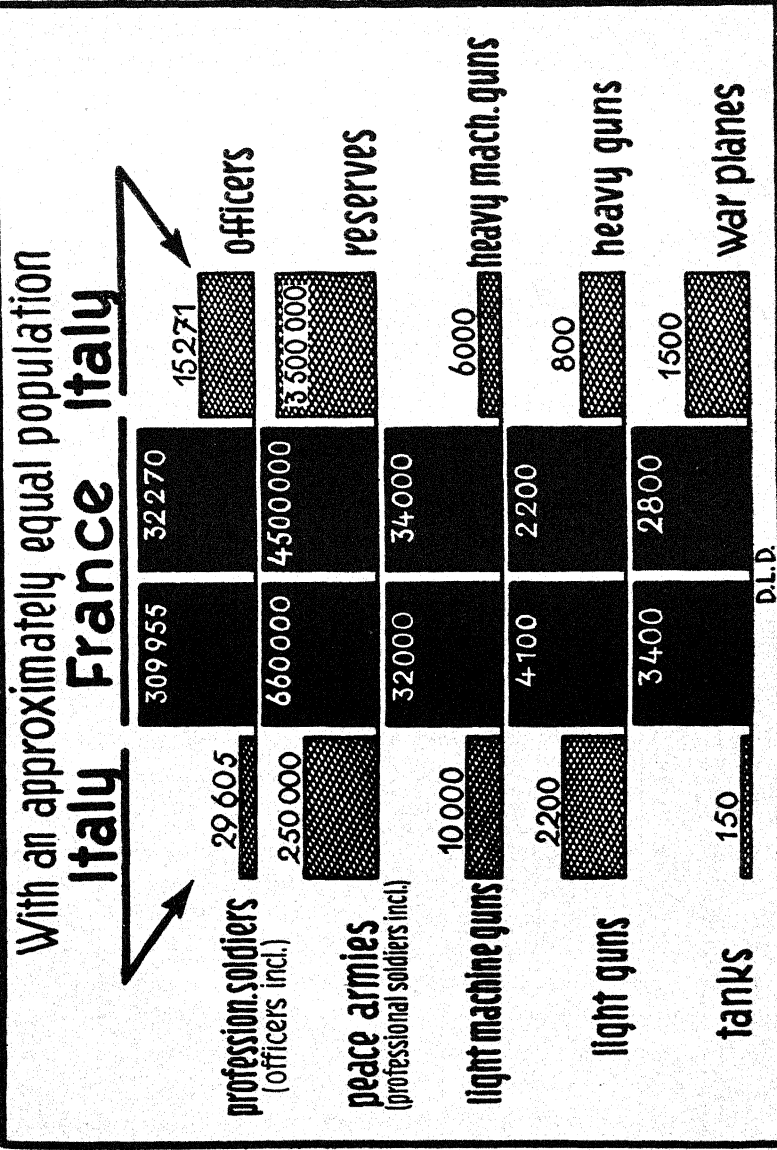
DLD

France's stores of war material

of the last war. The fact is that all men in training and fit for war service at the end of the war — cf. „Potentiel de Guerre“, chap. V have by this time passed the limit of military age, or are no longer fit for the physical exertions of military service, because they never have had the training of reserves. The number of officers, non-commissioned officers, and men who have been mustered out of the new German army during the last 12 years is far too small to deserve mention in comparison with the 4.1 millions of trained reserves in France. The maximum would be 120 000 men, not counting the losses by death, illness, emigration, etc. It will be remembered that, according to art. 174 of the Treaty of Versailles, only 5000 men may be discharged before the end of their twelve year term of service, while the number of men mustered out after completing their term is at best 6000. The total number of men annually discharged can, therefore, hardly be more than 10 000. Moreover, any records and control in peace time lacking, it would be very difficult to draft them in case of war. It would, at any rate, take much longer time than in France. But, supposing even these difficulties were overcome — where should Germany get the arms and material to equip them?

No matter how the term „trained reserves“ be interpreted, the fact remains that Germany does not possess any trained reserves and no possibility of increasing her army in case of war with reserves. Germany's peace army is at the same time her war army. **In case of war she would have only 100 000 men, inadequately armed and equipped to oppose to a French army of at least five million men, in every respect armed and equipped perfectly.** Such is the stark truth, a truth which was clearly and convincingly expressed in a declaration of the American delegation to the negotiations in Geneva, 1926, concerning the question of trained reserves and stocks of material:

„A country which has at its disposal trained reserves in the number it desires, the necessary armament and equipment, and the required reserve munitions, may fight offensive battles immediately upon the beginning of war. On the other hand, a country which has no such reserves nor material, which on the contrary must train its personnel first and transform its resources into arms and munitions, will, generally speaking, not be able to take the offensive before the end of at least one year, but will even risk the danger of a decisive defeat before that time.“



France's superiority in trained reserves and stores of material, compared to Italy

This declaration from a neutral, but no doubt expert source, is sufficient. It points out the tremendous military superiority which France possesses owing to her trained reserves and stores of material; it likewise shows the urgent necessity to take both factors into proper account as indisputable parts of peace armament, in any discussion of disarmament, if agreements on disarmament are not to be deprived of their practical value from the very beginning. It was very much to the point when an expert writer recently said: he who, in the question of disarmament, does not dare include trained reserves and stored material, proceeds like a man trying to drain a pond with a pail but forgetting to stop the sources that feed the pond.

VI.

Chemical warfare

Article 171 of the Treaty of Versailles forbids Germany the production and importation of suffocating, poisonous, and other gases or similar liquids, material, or means, on the ground that their use is prohibited. Article 172, in addition, forced Germany to inform the Allied and Associated Powers within three months after enactment, of the composition and method of production of all explosives and poisons or similar chemical preparations which she used during the war or prepared for war purposes.

In a protocol of the international conference on the trade with arms in Geneva, June 17th, 1925, France agreed upon a general prohibition of chemical warfare. She ratified that protocol, in contrast to her adverse attitude to a similar prohibition passed before, in the Washington Conference of February 6th, 1932, by France, Great Britain, Italy, United States, and Japan. **Nevertheless she does not really think at all of giving up the use of chemical weapons in case of war.** On the contrary, France has so far been opposing very strenuously any attempts that aimed at prohibiting the dropping of bombs from air planes or the maintenance of such planes as the principal media of chemical warfare. It is with a special zeal that France is preparing for chemical warfare and perfecting to the utmost its means, **entirely in keeping with the words of the French General Feuille in „France Militaire“ of January 1922: „World supremacy belongs to him who can strike a blow with a chemical weapon which the opponent is not in the**

position to parry". On this point little information has reached the public in recent years, since **France**, like all other countries free to arm, keeps strictest silence with regard to any work in the field of chemical warfare, especially with regard to the development of gas weapons and gas material. However, enough has been divulged to form an opinion of the present status of France's preparations for chemical warfare.

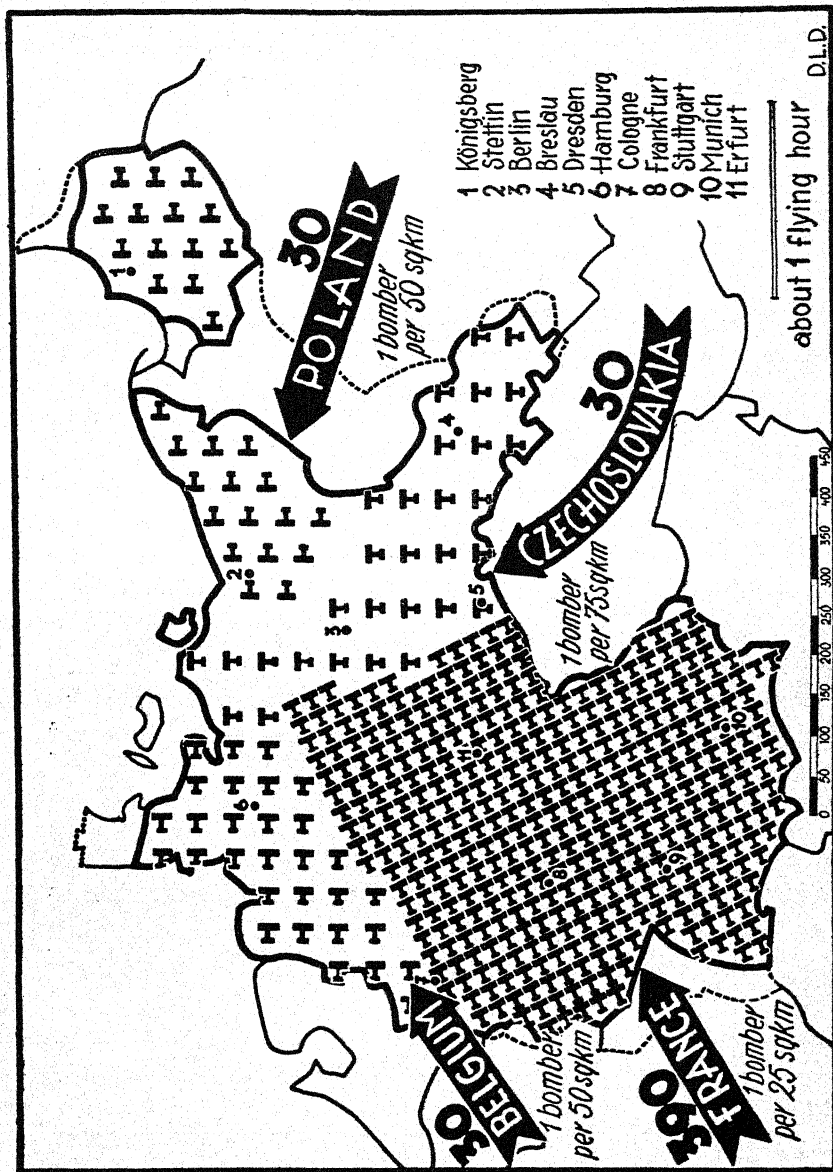
First of all, as told in connection with a description of the French air forces, France possesses by far the greatest number of bombing planes. As we have seen, the day bombers have a capacity of 900 kgr of bombs, while the night bombers even carry 1000 kgr. Furthermore, **France probably has the strongest and most highly developed war gas industry of Europe** with a least six government and 24 private works. Finally, she has a considerable number of government establishments in connection with that industry, devoted entirely to the problem of chemical warfare, its offensive application and the means of protection from it. For instance, there has been a commission since 1925 whose work it is to investigate and develop adequate means of gas war and to increase the productivity of chemical industry to such an extent as to meet military demands fully. Besides, there is, in the French Ministry of National Defence, the so-called „section technique des études et expériences chimiques“, and, under the direction of that, special troops of chemical experimentation. They are joined to the „Ecole militaire de Génie“ in Versailles and equipped with gas containers, gas-throwers, gas mine-throwers, and flame-throwers.

The measures for **training** the troops in the use of chemical arms are no less extensive. The training is prepared by including chemical warfare in the various military schools and reserve officers' courses. It is kept up by an especially thorough training of special gas officers, the co-called „officiers Z“, in gas-offensive and gas-defence, in the gas-school at Paris, the Ecole militaire de Génie, and in the chief gas-depot in Aubervilliers, finally, by courses given by the officers thus trained, for the men. Training is not restricted to theoretical instruction. **Gas-war and the use of individual gas substances are practised by the troops.** In this connection reports are interesting, according to which whole sections of artillery are temporarily transferred to Aubervilliers, also the instructions given out to the French army for the conduct of chemical war.

France had made the declaration, after the Washington conference, that she would use gas warfare only when applied against her. Considering that declaration the instructions mentioned have been summarized in an army order which bears officially the veiled title „Order of Gas-Protection“, which, however, treats of gas-war as such, also, in great detail. The order provides for the following ways of application of gas substances: 1. the **blowing attack** by letting of gases from big containers, transported by railways, and from portable bottles which may be carried by one man under his arm or on his back, and from stationary bottles as used during the World War; 2. **shooting** gas by artillery, in the form of „tirs de surprise“, „tirs de neutralisation“, „tirs d'infection“, and „tirs d'interdiction“.

The „tirs de surprise“ directs quick blows of gas attacks against human objectives within a limited space. The „tirs de neutralisation“, shooting tear gas with or without mustard gas, is intended to force the enemy to use gas masks, thereby diminishing his fighting ability. The „tirs d'infection“ infests whole areas with mustard gas or similar poisons by means of an extensive consumption of ammunition — 500 shots of 7,5 cm calibre or 50 shots of 15,5 cm calibre per hectare —, driving the enemy, or keeping him out of those areas. The „tirs d'interdiction“ obstructs important points of terrain and parts of terrain like towns, bridges, crossings, narrow passes, woods etc. For such gas barrages as are prepared early there may be used gas bombs from air planes, tank containers on motor trucks with sprays, in case of near objectives also gas shells from war tanks.

It is certain that France possesses a chemical armament no less powerful than her air forces. As to gas technique France may be regarded as the Power best prepared for a future war. Germany, however, has been deprived by the Treaty of Versailles of any possibility of preparing for chemical warfare. While Germany's chemical industry is still of importance, it is unable to produce material for gas warfare. For any and all establishments that might possibly have been used for that purpose, were completely destroyed under the supervision of the Interallied Military Commission of Control. Judging from the experiences of the World War, it would take at least one year to re-build those plants, that is, a period certainly longer than Germany will have available in a future war. Of equally great importance is the fact that the necessary experience and the necessary trained personnel are missing, and without that



Germany menaced by bombing planes of France and her allies

even the most perfect establishments, even if they were existing, are of no use. Besides, there is no institution of research left in Germany dealing with the problems of gas war.

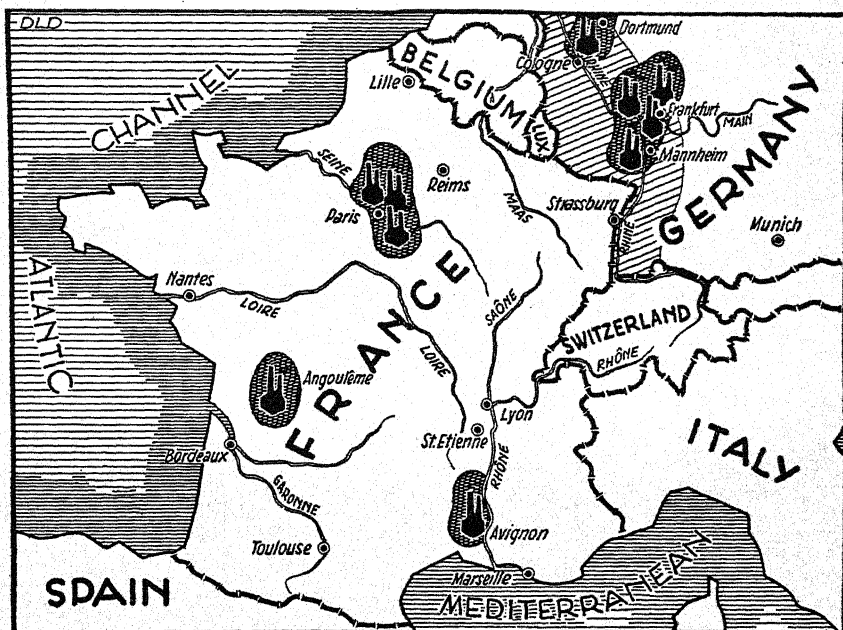
The Kaiser-Wilhelm-Institute for Physical Chemistry and Electrochemistry in Berlin-Dahlem which worked on those problems during the War, gave up this work entirely after the war; compare the Magazine „Der Weg zur Freiheit“, Berlin, December, 1926. It is now interested in entirely different problems. As Professor Haber stated in a report to the British news papers, all Departments of the Institute are open to any one for inspection. Of the other German institutions that might be considered in this connection, not one has ever, not even during the war, worked on that subject. All of them, like scientific research in Germany in general, are handicapped by great financial difficulties, so much so that foreign countries had to help repeatedly. It is out of the question, therefore, that any of them deal with war gases. The same thing is true of all laboratories of the chemical industry in Germany, which is struggling hard for its mere existence. Under the economic conditions of the present it could not afford the luxury of investigations not likely to yield financial results in the near future. The Government, hard pressed as it is, financially, cannot support such investigations.

All those facts are, of course, well known to the French. It, therefore, means more than lack of truthfulness, if France tries to account for her immense chemical armament by pointing to the state of Germany's chemical industry. Aside of all other facts, most of the works, and the greatest among them, are located in the demilitarized zone so that they cannot be considered at all for use in war. They are not only exposed to enemy air attacks but to occupation at the very beginning of war*).

Two of the most prominent French war chemists very emphatically declared that **Germany**, according to the findings of the Commission of Control, **never had tried the secret production of poison gases, nor was able to try.** One of these men is M. Nuraour,

*) Cf. „Handbuch des Abrüstungsproblems“, Section „Landrüstung“, p. 180, referring to article in the American „Journal of Industry and Engineering“ on „The Manufacture of War Gases in Germany“. The five firms, of a total of nine, in question are: Bayer & Co., Elberfeld; Meister, Lucius & Brünig, Höchst/Maine; Badische Anilin & Sodawerke, Ludwigshafen; Griesheim Electron, Frankfurt/Maine; Kalle & Co., Biebrich/Rhine..

formerly president of the chemical department of the Interallied Military Commission of Control; the other is **Professor Moureau**, leader of the French gas war in the World War, formerly president of the French commission for research in chemical warfare — two personalities of great authority. A few years before, in the „Revue Française of July, 1928, the French captain of cavalry, M. Bloch,



Location of most important chemical industries in France and Germany

had taken occasion to express his satisfaction over the fact that Germany's superiority in chemistry was a thing of the past, while France's superiority was rapidly rising, especially after regaining Alsace-Lorraine.

Germany does not possess a chemical war armament, nor has she the means to create one in time for use in war, not even in a most modest sense. Worse than that, Germany is not even in the position to protect her civil population sufficiently from enemy gas **attacks by means of masks**. An attempt of the Allies to deprive Germany of any gas protection whatsoever (London ultimatum of 1921) failed, but there was only one factory for the production of gas masks granted. The output of that one factory does not nearly

meet the demands of war. It is impossible to improvise suddenly a larger output, for the reason that a really serviceable protecting carbon cannot be manufactured without a trained personnel. In this respect, too, France enjoys entirely different conditions.

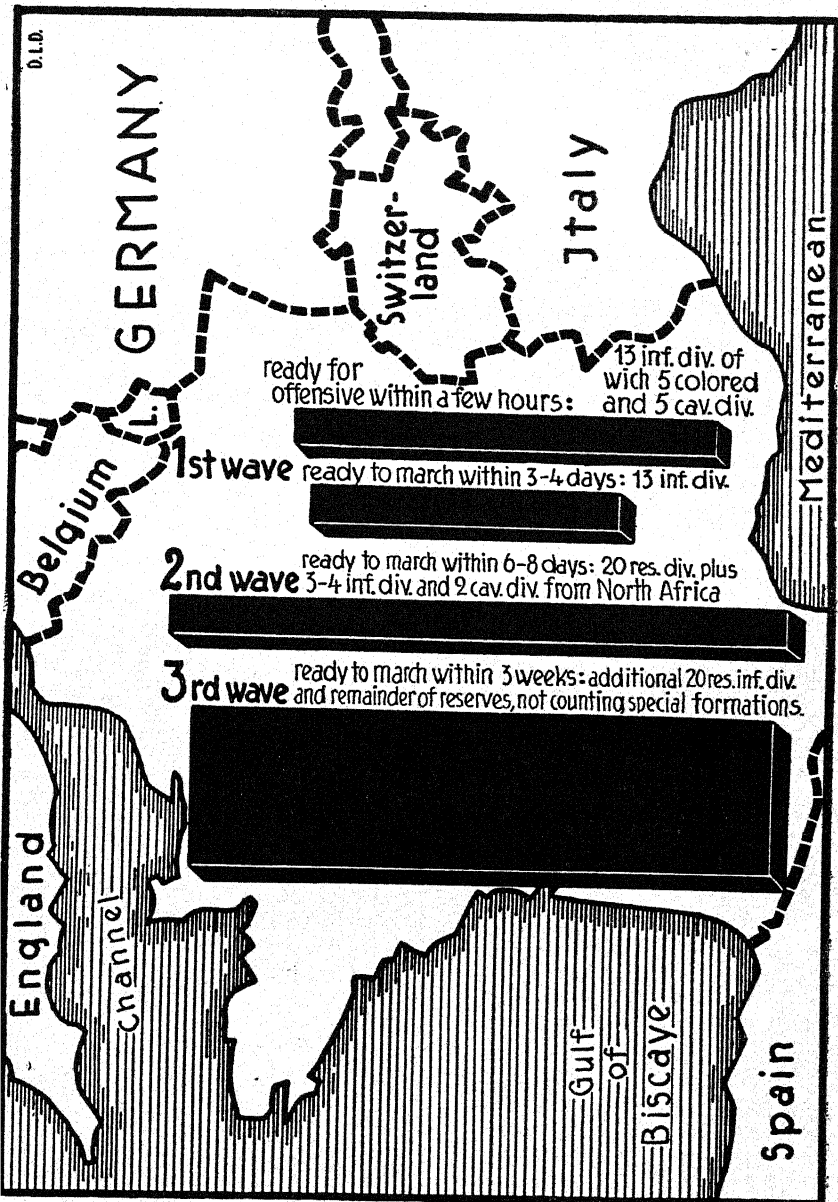
In the first place, France can in peace time test the defence against, and protection from, enemy gas attacks from the air, giving her civil population a practical training. **She can conduct air manoeuvres on a grand scale annually.** At the same time she has at least 20 plants manufacturing means of gas protection of all kinds. Of these plants the „Société des études et de construction de matériel de protection“ in Paris has alone a monthly production of 200 000 gas masks. Her independence as to war preparations together with her favourable finances enable her, besides, to protect her civil population in every other respect most completely, taking adequate measures for such protection in peace time. In the communes of the border districts there are depots of gas masks, under the administration of former officers and maintained by the several communes. The masks are furnished by the main depot in Auber-villers. There are, furthermore, in the larger towns volunteer detachments of depoisoning and, in Paris and elsewhere, even the fire departments are trained in gas protection.

VII.

Structure and organisation of mobilisation

Article 178 of the Treaty of Versailles forbids Germany any preparations for mobilisation. France, on the other hand, has made all preparations, in every direction, on a scale, and in a perfection equalled by no other country in the world, both from the military and economic points of view. The basis of mobilisation is the **Bill concerning „The General Organisation of the Nation for War“, of 1924.** Although not as yet formally enacted, special ordinances have practically put the provisions of the Bill into effect.

The Bill starts from the idea that in the future a war will not be conducted by the armed forces alone, but by the whole nation with all its resources, personal, material, economic, intellectual, and moral. It therefore intends creating, in peace time, a universal pre-disposition of the entire nation for the demands of war. All life, all thinking, all production, are to be normalized and stan-



Mobilisation of French army

standardized for war: the individual person, disregarding age, the sources of production, the economic institutions and values, national as well as private property. Everything is to be organized and prepared for war in peace time, most carefully and to the minutest detail; everything is to be done toward educating the whole people for war psychologically, toward strengthening its self-confidence so as to guarantee its moral power of resistance in war itself. There is not to be one branch of administration and industry, one Frenchman without a definite mission in war time, one individual, but that the government has an unlimited right of disposal of person, property, life, and faculties, in case of war.

So far only the general outlines of the leading ideas of the Bill. They present **an organisation of such dimensions and of such consistency as has never been created before by any nation, at any time. It utilizes all respective experiences of the World War in a manner really exemplary, giving France the highest degree of preparedness imaginable. We should have to go back to the times of Sparta in ancient Greece, to find a similar phenomenon in history, a similar power of state government.** All questions and measures connected with mobilisation are under the administration of the „Supreme Council for National Defence“, with the cooperation of the several ministries and of a number of special offices and commissions made up of representatives of the government and industry. The executive power is distributed, besides the factors mentioned, among the leaders of the „military regions“ and the military territorial authorities subordinated to them.

While the „Supreme Council for National Defence“ has been in existence since 1906, its functions were considerably extended after the war. Its president is the Prime Minister and it consists today of all Ministers and vice-presidents of the Supreme Air Council. It is assisted by a „commission d'études“. Members of this Commission are the Chiefs of the General Staffs of the Army, Navy, and Air Forces; the Director of political affairs in the Foreign Office, finally 16 more high officials of other ministries, and six generals. Its four departments deal with the conduct of war, the organisation of the nation for the case of war, the system of transportation, and the special problems of economic mobilisation.

However, the actual work is principally done by a Secretariat General which, under a General of the Army comprises ten high officers, two officials of the Commissariat, one Naval Engineer, and 13 high officials. It is subdivided corresponding to the four depart-

ments of the Study Commission. Its fourth section is extended by a consulting committee for war preparation, consisting of officers, military engineers, scientists, and industrialists. It has, generally speaking, three great subjects of work: transformation of factories from the normal peace status to the war status; distribution of war orders among the respective establishments; extension and transfer of plants and establishing new plants. It is the task of the Secretariat General to submit to the Study Commission detailed propositions for all questions of national defence and mobilisation. The Study Commission has to examine those propositions, deciding whether or not they will be submitted to the „Supreme Council of National Defence“. The „Supreme Council of National Defence“ then discusses them once more and assigns to each ministry those subjects which it will have to work out in war, after having made the necessary preparations for them in peace time. The preliminary work concerns an investigation of demands to be met in war, sources of raw material, food stuffs, industrial establishments, tools, motor power, and labour, means of transportation and communication, and other resources.

For this purpose each ministry has its department of mobilisation in peace time. Like the offices or private establishments subordinated to it in war time, it must work out plans and calendars of mobilisation. An especial value is attached to insuring the supply of food stuffs and raw material, and to preparing mass production in the factories. To this end agriculture receives comprehensive consideration, while large supplies of raw material, especially motor fuel, are stored up and the manufacture of war material is adapted to the manufacture of peace material. **Industrial plants** are accordingly **mobilized from within**. Factories receive in peace time definite orders as to the kinds and quantities of war material they are expected to turn out in war time. They must make the necessary preparations and arrangements in such a way that they can immediately start producing war material, when mobilisation begins.

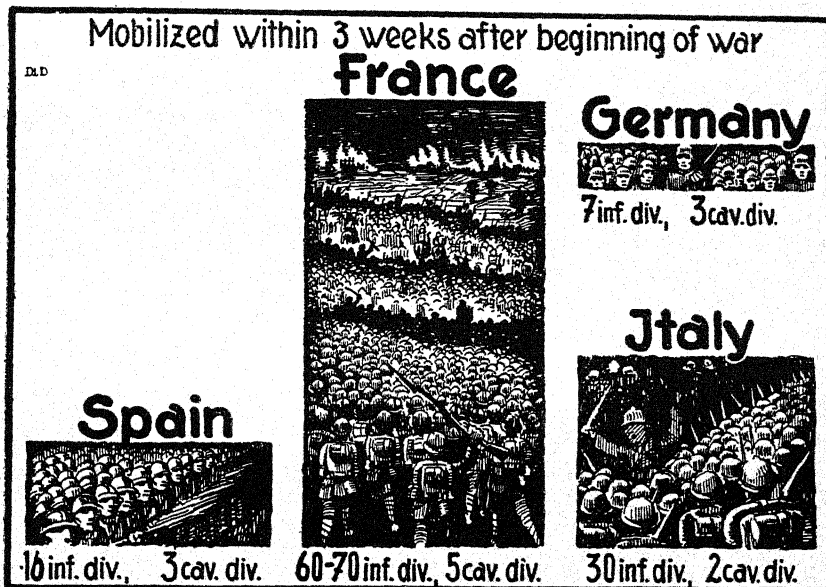
In January 1925, a special Fuel Office was created — „office national des combustibles liquides“ — for safeguarding the supply of motor fuel. Representatives of the Ministry of Defence are members of its council of administration. At the same time, every importer of petroleum has been legally obligated to keep in stock, for purposes of national defence, one fourth of the quantities of petroleum and its by-products he imports within twelve months.

These provisions are to be increased to such an extent as to equal the demands of three years. During the past few years numerous big oil-tanks were constructed for storing the fuel supply, with a capacity of 1 100 000 t, als early as 1926, compared to 500 000 t during the war. The French fleet of oil-tank ships has been greatly increased since the war. Including the 13 steamers attached to the navy, it consists at present of 55 ships with a capacity of 409 600 t as over against only 20 000 t before the war.

So much for structure, organisation, and preparation of mobilisation in general. The details are worked out by the heads of the military regions and by the territorial authorities organically connected with them. The latter are commanded by a general, who in turn is responsible to the commander of the region, taking charge of his work in case of war. The general directs and supervises in peace time the preparation for mobilisation, in case of war he carries it out, besides, attending to the peace routine of territorial affairs like garrison service, sanitation, military jurisdiction, training of juveniles, administration of depots and army work shops. He is assisted by a staff of his own, and, within his destrict, by several „bureaux de recrutement“ for the business of recruiting, finally by special officials of mobilisation, the so-called „centres de mobilisation“. The latter, about 600 of them in European France and North Africa, are the principal agents of mobilisation inside the military regions. It is their business to make up the calendars of mobilisation for the individual war formation, to control the reservists, to keep up the provisions of war material, and to prepare the economic mobilisation. The personnel needed consists of a few active officers and non-commissioned officers, principally, however, of the newly created officials of mobilisation, the so-called „agents militaires“.

The strictly military mobilisation is done in several „waves“. The first wave contains the European peace army brought to its war footing, i. e., 26 divisions of infantry and five divisions of cavalry, and strong corps and army troops. The second wave contains the 20 reserve divisions of infantry which are formed within the military regions. Their organisation and equipment is the same as that of the divisions of the first wave. **Both waves together make up the so-called „armée de couverture“ with a total strength of 46 divisions of infantry and five divisions of cavalry:** 1.4 million men who, according to the military situation, may be reinforced by three or four divisions of infantry and two divisions of cavalry from North

Africa. They protect the organisation of the third wave which consists almost exclusively of reservists. It may be estimated at 20 more divisions at least. The first wave, with the eight white frontier divisions, that is, as stated above, with one half of the infantry divisions and the entire cavalry, is available within a few hours; with the other half of the infantry divisions it is available within three or four days. The second wave is ready within six or

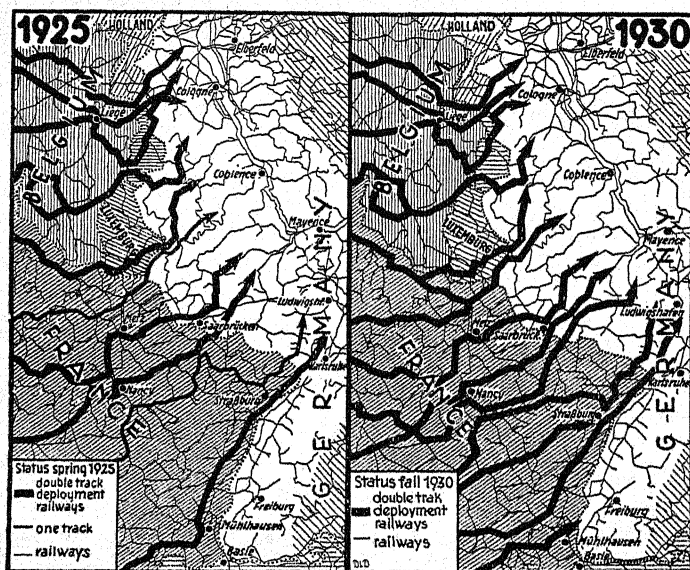


Superiority of France, three weeks after mobilisation, as compared to her three most important continental neighbours

eight days, and the third wave within about three weeks.

This means that France, within three weeks, can count upon at least 65 to 70 mobile infantry divisions, i. e., at least 12 to 17 more than her three most important neighbours, Germany, Italy, and Spain, together, can put in the field within the same period. In addition to an excellent preparation, a large number of trained reserves, and an abundance of stocks of material, France is considerably aided in mobilisation by the institution of „disponibilité“. As explained before, the law of March 31st, 1928, „on recruiting the army“, empowers the government to call out the three youngest annual classes of reserves without asking the approval of parlia-

ment. Moreover, there is the large number of active officers and white capitulants in peace time. They make it possible, not only in the mobilized peace army, but also in the 20 reserve divisions of the second wave to fill every commander's position, from the commander of a battalion on upward, with active officers and to attach to every company, squadron, and battery at least one active officer, and besides about 1200 white capitulants to every reserve-division.



French strategic railways against Germany, in 1925 and 1930

Numerous practice-mobilisations and similar exercises are arranged in peace time so as to insure a quick and smooth progress in case of war. Every leader, and his staff at least once a year, goes through all stages of mobilisation in their district, both theoretically and in practice. Likewise every enlistment of reservists for manoeuvres or regular training, recently also the formation of special reserve-units, is used for tests of mobilisation. It is the aim to have every reservist practise in peace time with the unit he will belong to in war. In this way a strong feeling of coherence is created for reserve formations in peace time, a factor which is rightly considered one of the principal conditions for the efficiency of troops in war.

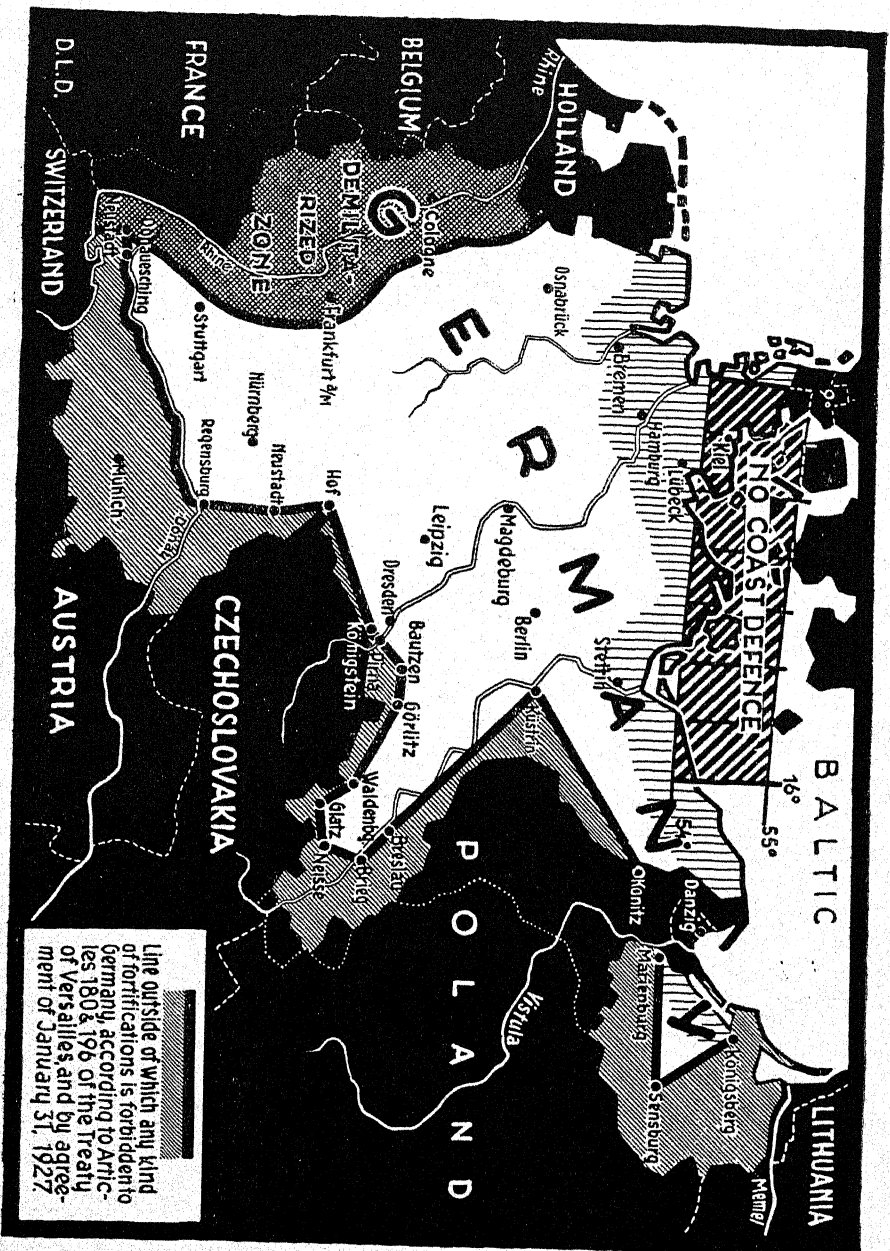
We have seen that structure and organisation of mobilisation in France mean an unparalleled, systematic, and comprehensive preparation for it, from the military and economic points of view. A quick, effective, and smooth mobilisation is insured in every direction. The organisation of special staffs and authorities of mobilisation relieve the active troops to a large extent, permitting them to attend to their training almost exclusively. Germany's absolute defencelessness as over against France cannot be demonstrated more strikingly than by the fact that, by the Treaty of Versailles, she was forbidden any kind of preparation for mobilisation.

VIII.

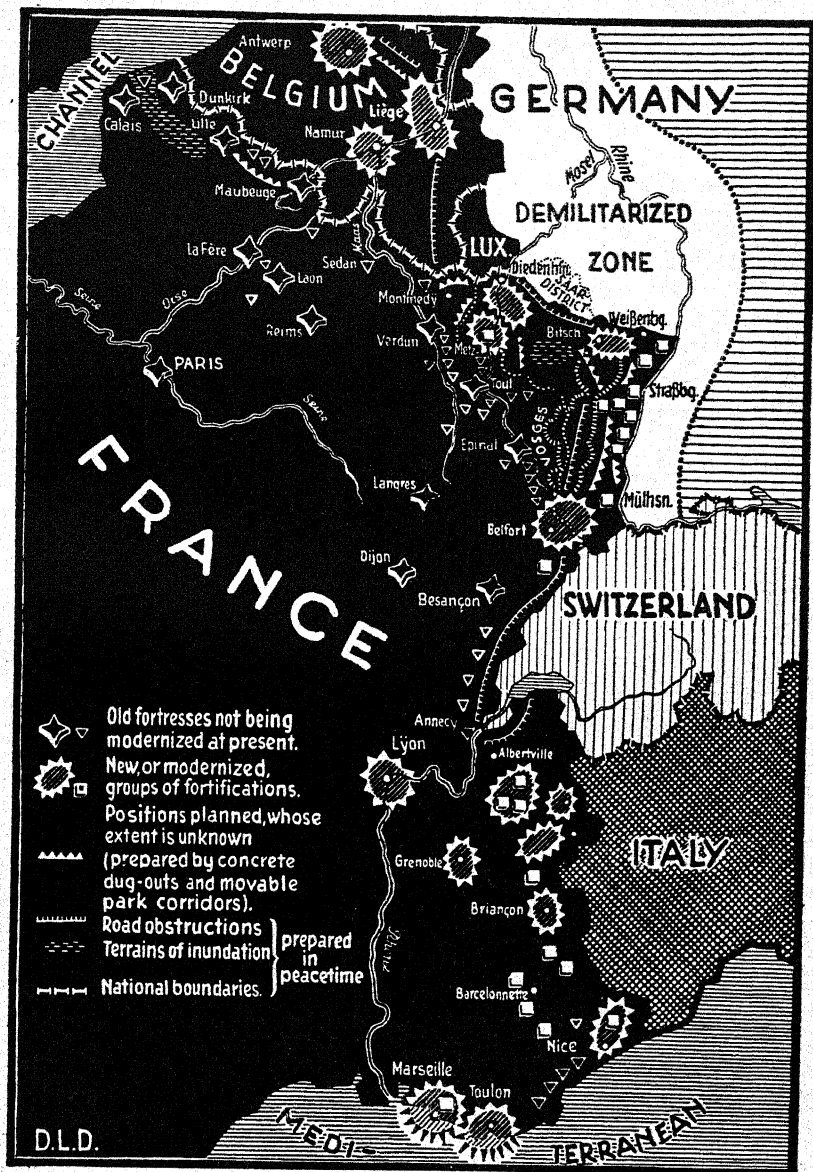
Fortifications

For information with regard to fortifications in Germany one should turn to the military stipulations of the Versailles Treaty, to the London Ultimatum of May 5th, 1921, and to the agreement, forced upon Germany by the Conference of Ambassadors, on January 21st, 1927, with regard to the fortifications along her eastern and southern borders. **It will appear that in the west the entire demilitarized zone on the Rhine, in the north Heligoland and the whole western part of the Baltic coast as far as the interior of Pommerania, are today absolutely unfortified and may not be fortified, Germany having been compelled to destroy whatever there was of fortifications. It will appear, too, that German fortifications along the other frontiers, land and sea, are subject to extraordinarily great restrictions; that such fortifications as were left to Germany by treaty, are more or less completely worthless.** They are: in the east, the fortifications of Königsberg, Lötzen, Marienburg, Küstrin, Glogau, Breslau, and Glatz; in the south, the fortresses of Ingolstadt and Ulm; in the north all coast fortifications as far as they were not inside the defortified Baltic zone or no farther away from the shore than 50 km.

Those fortifications for the most part had been obsolete before the war. They are obsolete now without exception. But Germany has been forbidden to modernize them. Not only was Germany forced, by articles 180 and 196 of the Versailles Treaty, to leave them in the same condition as at the time of enactment. She had also to disarm them completely, on the basis of the London ulti-



Germany deprived of fortifications

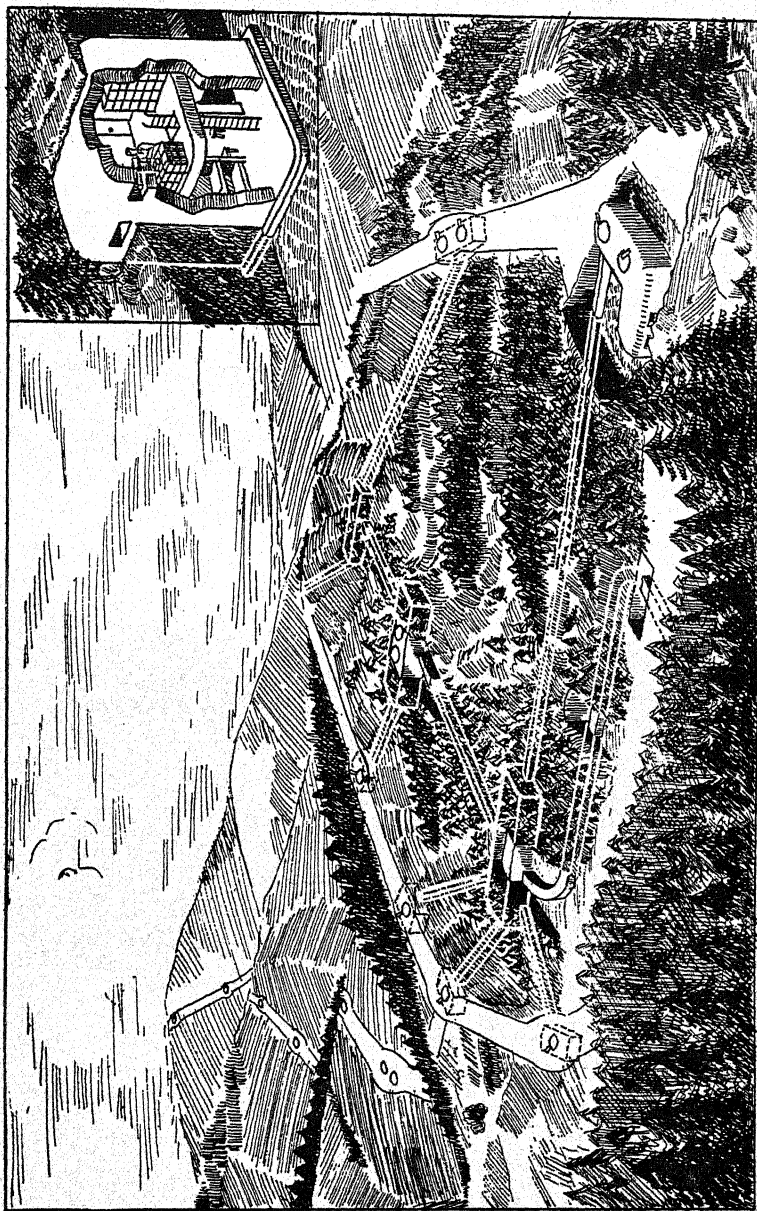


New system of fortifications along the eastern and north-eastern frontiers of France

matum, except for Königsberg and the coast. Only Königsberg and certain fortifications on the coast were granted an equipment of guns. But that equipment is practically worthless because of the restrictions imposed, regarding the number and calibre of guns as well as regarding munitions and mobility for action. The guns had to be made stationary. In Königsberg, for instance, their number was fixed at the pittance of merely 22 heavy and 16 anti-aircraft guns. New constructions are permitted, in the east and south of Germany, only within the small triangle Königsberg-Sensburg-Marienburg, and inside the line Schlochau-Küstrin-Frankfurt (on the Oder) - Breslau - Brieg - Neisse-Glatz-Hirschberg-Görlitz-Erzgebirge-Hof-Regensburg-Ingolstadt-Ulm-Donaueschingen. None are allowed along the coast, not even outside the defortified Baltic zone.

The status of French fortifications is entirely different. **The French system of fortifications was exceptionally strong even before the war.** It is today **the strongest in the world.** Its chief bulwark has always been the fortification of the French north-east border against Germany. An entirely new system has been under construction since 1920. It will be completed by 1935, at the latest. In that year there will be a powerful fortified zone extending all along the French-German frontier from the Swiss border in the south to the Luxemburg border in the north. This zone will include the whole territory between the frontier and the Maas, connecting at Longwy with the fortifications of the French-Belgian border and especially with those fortifications which Belgium, in consequence of her military alliance with France, assumed to build on her eastern and northern border. It will consist of a graduated series of fortified positions, intricately grouped themselves, of which those of the front line form an uninterrupted chain of most modern fortifications, while those in the rear include the old fortresses Epinal, Toul, and Verdun with the intermediate forts of obstruction.

The fortifications of the front lines will have for their main support in the south the „hollow“ of Belfort which has been transformed into a wide fortified space; in the north, the Hackenberg, 15 km east of Diedenhofen, was transformed into one mighty subterranean fortress. Another point of support, no less powerful, will be the Hochwald, 18 km north of Hagenau. There will be included the former German fortresses of Metz, Strassburg, and Neubreisach. As a result, **a front of about 300 km will contain approximately 300 works of steel and concrete, big and small, part of them subterraneously connected, protected from gas and from the strongest**



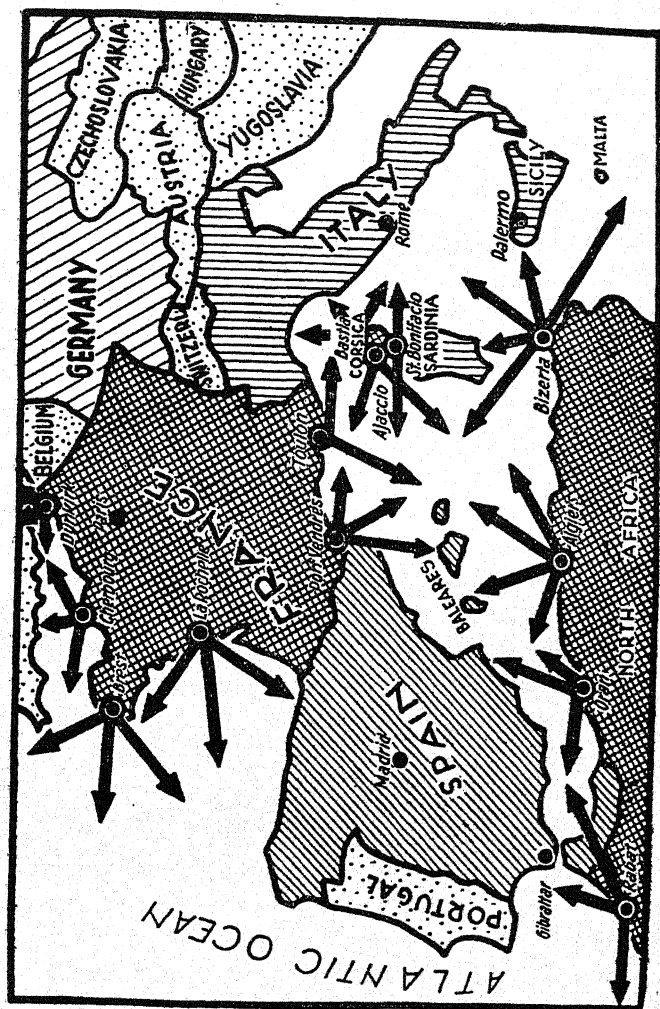
A group of modern French fortifications along the German frontier.

Underground connections of all parts with barracks, which is reached through a subterranean field railway tunnel. In front of barracks an armoured battery; before that a squad room with corridors to the block-houses. Right front: the block-house of right wing, which also covers obstructions in front of adjoining chain of block-houses. The whole system made gas-proof by inside safety device; electricity and running water in every block-house. — Right upper corner: diagram of machine gun block-house of reinforced concrete, with fighting space for two machine guns, and with rest-room (below), connected with main barracks by underground corridor. In reality only the upper front-edge of the block-house with its loop-holes is visible; that, too, camouflaged by air defences net.

artillery fire. The fortifications are adjusted to the terrain and arranged so that they can support one another by fire and at the same time keep under fire the territories outside the frontier. At no place they will be farther away from the border than 12 to 15 km. On the 172 km of front along the Rhine from Seltz to Kembs the fortifications reach the river. Their armament differs according to size and importance. Small works are generally equipped with two machine guns, the large ones with artillery, partly of the heaviest calibre.

Larger works, besides Hackenberg and Hochwald, are laid out especially near the various Rhine bridges and ferries, and at all such places as might be used for crossing. In case of emergency these places can be blocked and bolted immediately. In contrast to the smaller machine gun positions, the large works have outside ditches, electric plants, electric kitchens, ventilators, wells, running water, heating plants, signal stations, and big depots of food and munitions. Several hundred metres behind them and the machine gun positions, there are concrete dug-outs for reserves and relief troops, and back of them, at especially well arranged railway stations, movable *parcs*, the so-called „*parcs mobiles*“ or „*fortifications à roulettes*“. The dug-outs resemble small barracks which, two stories high, can accomodate half or whole companies respectively. They are provided with fighting spaces for the defence of the front lines of the zone of resistance, with which they are connected by subterraneous passage ways. The movable *parcs* are intended for quick repairs of works and plants destroyed and for construction work at places where, in the case of war, obstructions and rear positions seem needed. They are provided with all material necessary and with numerous motor trucks for the transport of the material. With their equipment they can even build concrete dug-outs and machine gun positions very rapidly.

In addition to these fortifications there are many road obstructions, especially in the Vosges Mountains, and preparatory arrangements for inundation, especially on both sides of the Saar between Bitsch and St. Avold, all of it being camouflaged, as much as possible, against scouting on land or from the air. For protection from air scouting and from air attacks, particularly, there are distributed along the whole front, numerous anti-air-craft batteries, machine guns, and search lights, stationary or movable. At the same time a large number of new railways and roads are under construc-



French fortification of sea coast with stations for navy and air force

tion and all provisions are being made to secure speed and order in transporting troops to the fortifications in case of emergency. Seven of the 26 infantry divisions stationed in France proper are placed within or very near the zone of fortifications in Alsace-Lorraine.

The new fortifications along the French-German border being constructed now are no doubt **unparalleled as to strength and perfection in the world**. Their gigantic dimensions have no counter part anywhere. Simultaneously, the fortifications on the Atlantic and Mediterranean sea coasts, on Corsica, and in North Africa, and **especially in the Alps along the Italian border are being strengthened**. They block all valleys and passes in the Western Alps from Nice in the south to the Swiss border in the north. They are divided into seven groups, the most important ones being those at Nice, at the Col de Larche, Mont Genève, Mont Cenis, and Little St. Bernard. The chief points of support are Nice in the south, the fortress of Briançon in the centre, and the fortress of Albertville in the north, with the principal garrisons in Toulon in the south, the strongly extended fortress of Grenoble in the centre, and Lyon in the north. Each group consists of several forts and battery positions which, though antiquated for the most part, possess a considerable strength for defence and offensive, because of their location and terrain. They lie so near the frontier that their guns cover large sections of Italy, resisting effectively an Italian advance against and into France, supporting at the same time, no less effectively, a French advance into Italy. The work of reinforcing and modernizing was started in the summer of 1930, near Nice in the south and at the Col de Larch in the Ubaye Valley.

France is consequently about to strengthen, by artificial means, her naturally strong frontiers on all fronts militarily of importance. In addition to her geographic situation, in itself extremely favourable from the military point of view, she has the strongest system of national fortifications today. Germany, on the other hand, with a geographic situation militarily extremely unfavourable, with her frontiers but poorly protected by nature, has by far the weakest system of fortifications of all her neighbours. Her border districts, not only in the west, but also in the east, south, and on the sea coast, are either entirely unprotected or practically so. But France's important frontiers are protected by an armour of steel and concrete of really gigantic dimensions.

IX.

Allies

Germany has no allies of any kind, while France has a large number of allies. She is directly allied to Belgium, Poland, Czechoslovakia, Roumania, and Yugoslavia, and controlling, besides, a system of alliances in eastern and southeastern Europe. By the latter, Czechoslovakia, Roumania, and Yugoslavia are connected among one another, forming the „Little Entente“, and each of them individually with Poland. All that has been described in detail in chapter III of „Potentiel de Guerre“. It has also been stated there that most of these alliances are, either exclusively or primarily, directed against Germany and therefore must be taken into consideration as significant factors of the French „potentiel de guerre“.

Without entering into details again, we here wish to emphasize the fact that the French alliances have a great influence upon the „potentiel de paix“ of France, affecting materially the ratio of military power between Germany and France. It is for this reason that we give an account of the „potentiel de paix“ of the French allies in comparison to Germany. In the first place, all of the five countries allied with France have general conscription and military training of juveniles, the latter being practically introduced, even when not legally prescribed. The period of military service is 25 years in Belgium, 28 in Poland and Roumania, 30 in Czechoslovakia and Yugoslavia. Active service lasts from eight to fourteen months in Belgium, two years in Poland and Roumania, and 14 to 18 months in Czechoslovakia und Yugoslavia.

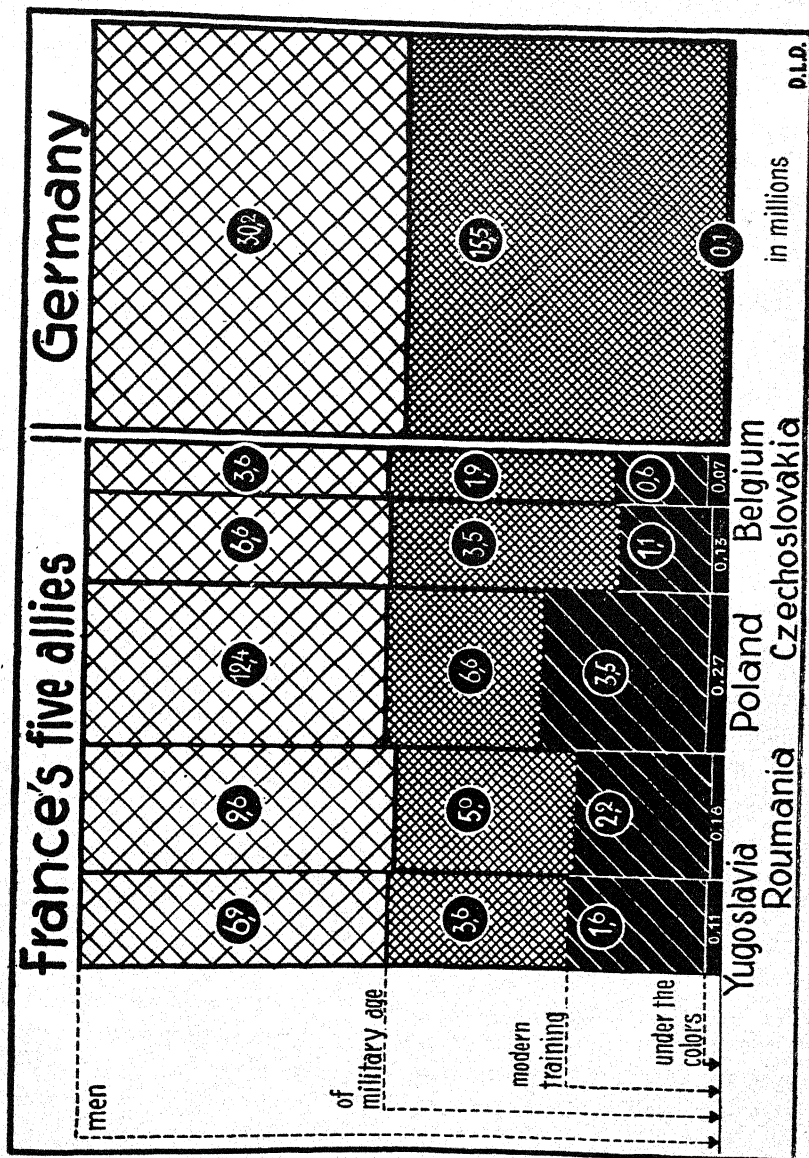
Like France, and in contrast to Germany, all of the five countries are able to give military training in peace time to the majority of their able-bodied male population. They also are able to build up, beside the standing army, a strong body of reserves. The numerical strength of the several armies is as follows: Belgium, 71 300 men, including 4163 officers and 23 000 long-term men; Poland 266 000 men, including 17 905 officers and 37 000 non-commissioned officers; Czechoslovakia 140 000 men in winter, 100 000 in summer, including 10 079 officers and long-term men; Roumania 186 000 men, including 14 729 officers and 25 122 non-commissioned officers; Yugoslavia, about 150 000 men, including 7528 officers and 8393 non-commissioned officers.

The total strength of the peace armies of France's allies consequently amounts to about 813 000, the total number of officers to

54 404, and the total number of long-term men, besides officers, to about 108 000 men. Their total strength is more than eight times, their number of officers more than 16 times the numbers in the German army, with 8000 long-term men more. The army of little Belgium is only 18 700 men smaller, while the Polish army is one and a half as strong, the number of officers four times as strong as in the Germany army. The Czechoslovakian army surpasses it by almost one half in winter, and by more than 6000 officers; the Roumanian army by about 86 000 men and more than 10 000 officers; the Yugoslavian army by 50 000 men, and by twice the number of its officers.

As regards numerical strength of their peace armies there is a great superiority on the part of the French allies, as on the part of France herself, over Germany. This superiority appears the more striking if a comparison of „potentiel de paix“ is extended to the number and strength of their units in peace time, to their equipment and arms, to their air forces, trained reserves, and quantities of stored-up material, as well as the degree of preparedness for war. The figures for the principal units, categories, and heavy arms are as follows:

1. The three countries bordering upon Germany: **Belgium:** six divisions of infantry and two of cavalry; 18 regiments of infantry, six of cavalry, seven of light and seven of heavy artillery; three tank companies. Airforces: six squadrons each of observation and chaser planes; three bomber squadrons and three for distance scouting, with an equipment of 1215 light and 618 heavy machine guns, 302 light and 112 heavy guns, 50 tanks and 289 planes. **Poland:** 30 divisions of infantry, one of cavalry, and 11 separate brigades of cavalry, 90 regiments of infantry, 40 of cavalry, 31 light and 12 heavy artillery, including one motorized regiment of the heaviest artillery; 20 tank companies. Airforces: including a section of maritime aviators, 28 squadrons of observation planes, 15 of chaser and three of bomber planes, with a total equipment of 6700 light and 3900 heavy machine guns, 1693 light and 420 heavy guns, 90 tanks, and 509 planes. **Czechoslovakia:** 12 divisions of infantry and three separate brigades of cavalry; 52 regiments of infantry, 10 of cavalry, 18 of light and 21 of heavy artillery; at least ten companies of tanks. Air forces: 11 squadrons of observation, 10 of chaser and three of bomber planes, and one squadron for distance recognoitring, with a total equipment of 8000 light and 2500 heavy machine guns, 864 light and 412 heavy guns, 100 tanks and 300 planes. **All three countries together:** 48 divisions of infantry and three divisions of



Military systems of French allies

cavalry, and 14 separate brigades of cavalry, 160 regiments of infantry, 56 of cavalry, 56 of light and 39 of heavy artillery; 33 companies of tanks. Air forces: 45 squadrons of observation, 31 of chaser, nine of bomber, and four of distance scouting planes, with an equipment of material totalling 15 915 light and 7018 heavy machine guns, 2859 light and 944 heavy guns, 240 tanks, and 1098 planes.

2. Follow the figures for the other countries: **Roumania:** 23 divisions of infantry and four of cavalry; 76 regiments of infantry, 22 of cavalry, 44 of light and 7 of heavy artillery; 8 companies of tanks. Air forces: besides 5 training and 2 navy squadrons, 9 squadrons each of observation and chaser planes, four of bombers, with a total equipment of 3580 light and 980 heavy machine guns, 1104 light and 126 heavy guns, 90 tanks, and 292 planes. **Yugoslavia:** 17 divisions of infantry and 2 of cavalry; 58 regiments of infantry, 15 of cavalry, 33 of light and 5 of heavy artillery; five companies of tanks. Air forces: 16 squadrons of observation, three of chaser and four of bomber planes, with an equipment of material totalling 3300 light and 736 heavy machine guns, 696 light and 92 heavy guns, 20 tanks, and 318 planes. **All five countries together:** 88 infantry and 9 cavalry divisions, 14 independent cavalry brigades, 294 regiments of infantry, 88 of cavalry, 133 of light and 52 of heavy artillery, 16 companies of tanks. Air forces: 70 observation squadrons, 43 chaser, 15 bomber and four distance scouting squadrons, with an equipment of material totalling 22 793 light and 8934 heavy machine guns, 4659 light and 1160 heavy guns; 350 tanks, and 1708 planes.

Considering merely the most important units, categories of arms, and heavy arms allowed to Germany by treaty, we arrive at the following conclusion, on the basis of a comparison between the peace armies of France's allies and Germany: Little **Belgium** has only three regiments of infantry and 12 of cavalry less, on the other hand 881 light machine guns and 14 light guns more, than Germany. The **Polish** army has more than four times the number of infantry and light artillery regiments; more than double the number of cavalry regiments; more than six times as many light machine guns, almost five times as many heavy machine guns, and nearly six times the number of light guns, compared to Germany.

The **Czechoslovakian** and **Yugoslavian** armies have each eight regiments of cavalry less; but the former has 31 regiments of infantry and 11 of light artillery, the latter 37 regiments of infantry and 26 of light artillery, while the **Roumanian** army has even

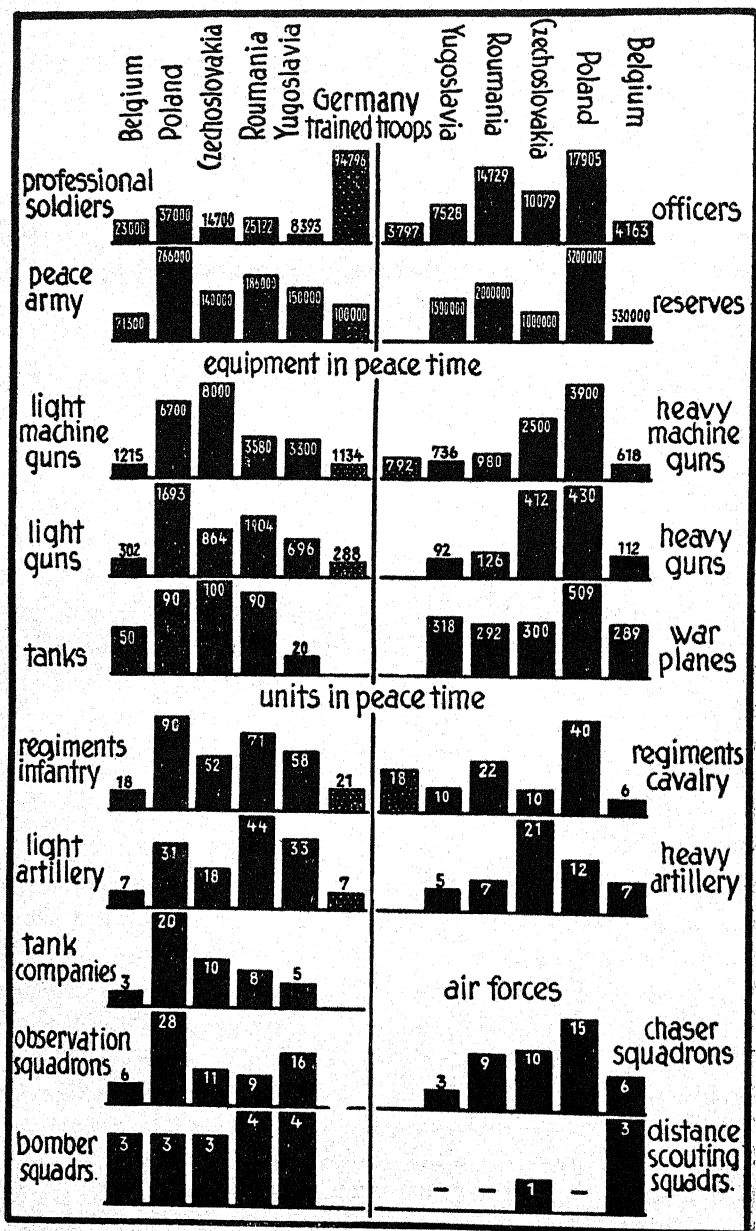
55 regiments of infantry, four of cavalry, and 37 of light artillery more, than the German army. The equipment of material in the **Czechoslovakian** army surpasses that of the German army by seven times the number of light machine guns, more than double the number of heavy machine guns, more than three times the number of light guns. The **Yugoslavian** army has 56 heavy machine guns less, but almost twice as many light machine guns, very much more than twice the number of light guns. The equipment of the **Roumanian** army is twice the number of light machine guns, 188 heavy machine guns more, and nearly four times the number of light guns, compared to the German army.

Not counting the categories and kinds of arms forbidden to Germany by the Treaty of Versailles, the three countries bordering upon Germany, Belgium, Poland, and Czechoslovakia, together, have 139 regiments of infantry, 38 of cavalry, and 49 of light artillery, 14 781 light machine guns, 6226 heavy machine guns, and 2571 light guns; all five countries, together, 273 regiments of infantry, 70 of cavalry, and 126 of light artillery, 21 661 light and 8142 heavy machine guns.

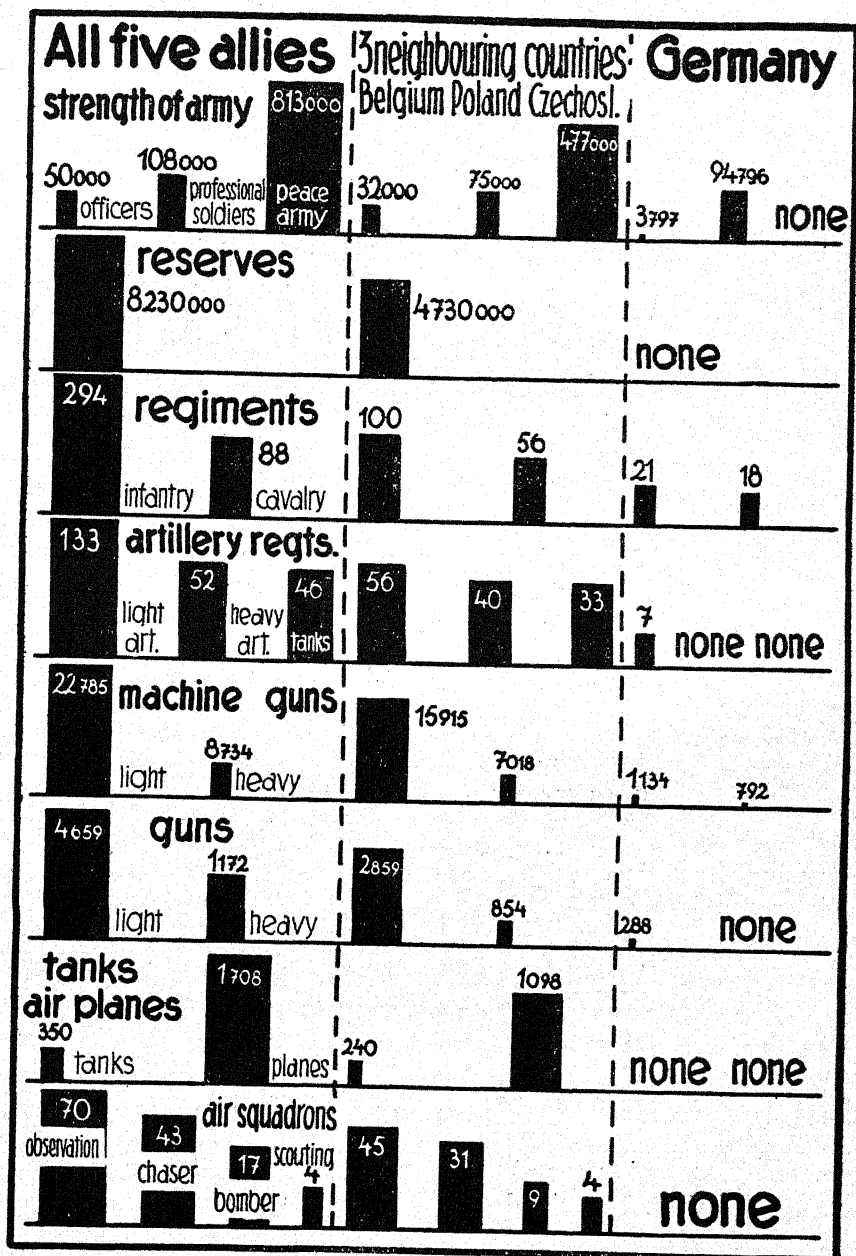
Taking all of the five countries together, there must be added a large number of **supplementary military formations, like gendarmerie, corps of frontier guards and frontier defence; first of all, strong contingents of trained reserves and big stocks of material.**

The trained reserves in Belgium number at least 600 000 men, in Poland 3.2 million men; in Czechoslovakia at least one million, in Roumania two, and in Yugoslavia 1.5 million men. Stores of material in Belgium: 1685 light and 555 heavy machine guns, 286 light and 159 heavy guns, and 111 reserve planes; in Poland: 15 000 light and 8000 heavy machine guns, 1757 light and 316 heavy guns, 260 tanks, and 491 reserve planes; in Czechoslovakia: 8000 light and 2500 heavy machine guns, 636 light and 188 heavy guns, and 300 reserve planes; in Roumania: 5480 light and 4058 heavy machine guns, 946 light and 49 heavy guns, and 158 reserve planes; in Yugoslavia: 4400 light and 314 heavy machine guns, 1054 light and 58 heavy guns, 30 tanks, and 182 reserve planes.

All of the five countries are enabled to double the number of their infantry divisions in case of war very rapidly and, besides, to raise a large number of army troops and corps troops, thanks to a system of mobilisation well prepared, and in part worked out by French officers or in close cooperation with the French General Staff.



Armies of French allies. Their total strength, &c., compared in detail to German army



Armies of French allies. Their total strength, &c., compared to German army

Owing to her alliances, France can count upon a great increase of forces in case of war. This increase remains large enough, even considering the probability that the French allies, at least those in Eastern Europe, in case of war will hardly be able to use their armies against Germany alone. The geographic situation of Belgium and France allow an immediate and direct cooperation of both armies. Of the French allies bordering upon Germany in the east, Poland has about 18 infantry divisions, her cavalry division, six separate cavalry brigades, and four regiments of aviators west of the line San, Vistula, Narev, and Nyemen. Czechoslovakia has about eight infantry divisions, two brigades of cavalry, and likewise four regiments of aviators in Bohemia and Moravia. **Three fourths of the two armies, and the bulk of their air forces are thus in peace time stationed more or less close to the German frontiers.**

The impression of the „*potentiel de paix*“ of the French allies, compared to Germany, with its importance for France, would not be complete, if we did not include the **naval armament of Poland** and the **chemical armament** of the various countries allied to France. Excluding the section of maritime aviators mentioned above, the Polish naval armament consists on the whole only of two destroyers, 1540 tons each, built in France in 1928/29; five small, formerly German, torpedo boats, built in 1916/17, and three submarine mine-layers of 1250 tons each, also built in France in 1929/30. While weak in itself, this navy must not be underestimated as to its importance for the naval strategy in the Baltic, for the reason that Germany has been forbidden, as we know, any kind of submarine craft.

In all of the countries allied to France, the status of **chemical preparedness for war is about the same, on the whole quite similar to France.** In Belgium, Poland, Czechoslovakia, Roumania, and Yugoslavia extensive preparations have been made for gas attacks and gas defence. Each of these countries possesses special factories for gas-war material and gas masks, chemical establishments, institutes and committees for the investigation, perfection, and testing of war gases and means of protection. Each has in its war ministry and General Staff special departments for gas war and gas defence to which officers and chemistry experts are attached. Each has its gas school, gas arsenal, and special gas officers in the army. In all of those countries, both in the gas schools and in the armies, there are courses of instruction for gas war and gas defence, gas practice of the artillery, and special exercises of military and civil authorities

Military Expenditures

percentage of
total budget

per head of working
population, in RM.

France

34,5%



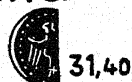
Belgium

13,2%



Poland

37,0%



Czechoslovakia

19,0%



Roumania

24,5%



Yugoslavia

19,0%



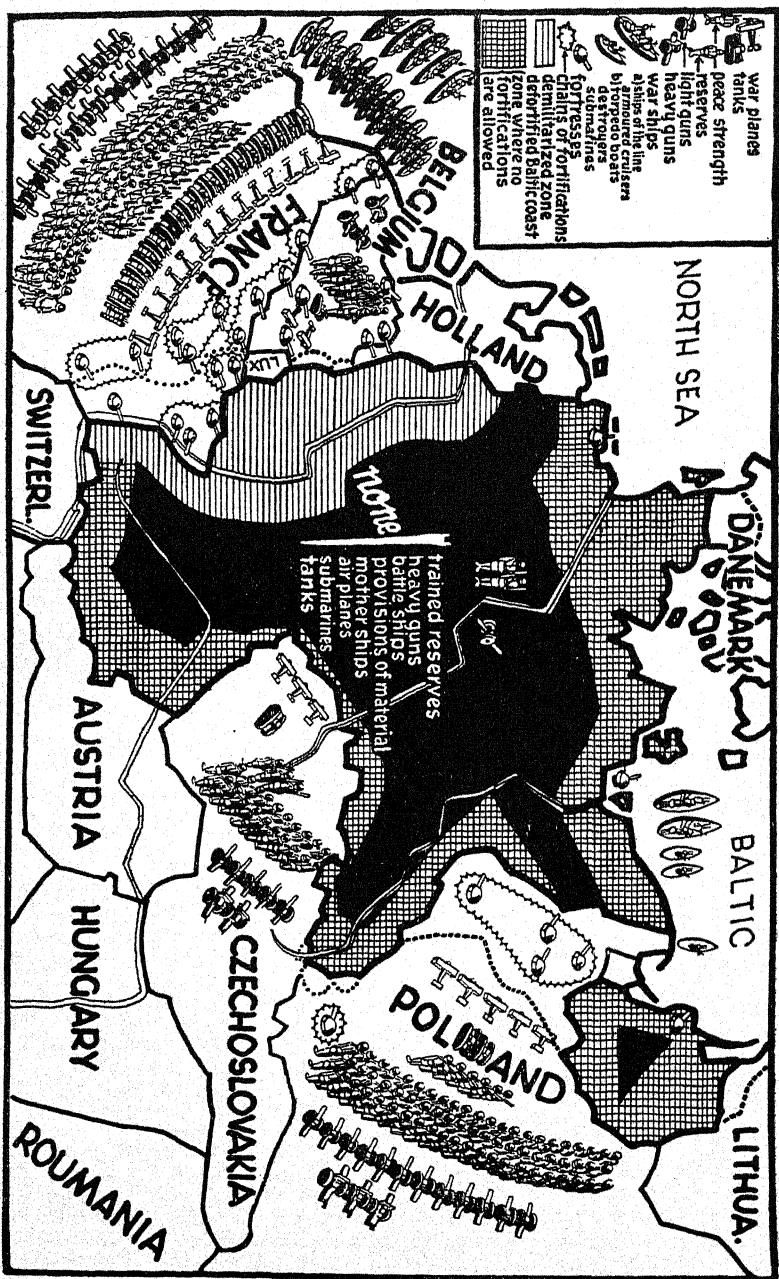
Germany

5,6%



* D.L.D.

Military expenditures of the allies of France



Ratio of military power along Germany's western, eastern, and south-eastern frontiers, &c.

for instructing the civil population what to do in case of enemy gas attacks. In peace time, only Poland has special gas troops in the form of a chemical experimental battalion and special gas battalions which are principally equipped with Livens gas-throwers. These battalions, however, are not permanent but organized from time to time, as needed. The other countries have no special gas troops in peace time. But they have made all preparations for organizing gas troops in case of war. Flame-throwers are probably ready in peace time everywhere.

That is about all that can be said of the „potentiel de paix“ of the countries allied to France. It suffices to show that there is good reason for taking into account their „potentiel de paix“ in a comparative estimate of the „potentiel de paix“ of Germany and France.

Conclusion

The consequences

It was the purpose of the present paper to supplement the preceding paper „Potentiel de Guerre in France and Germany“ with a comparison of the so-called „potentiel de paix“ of Germany and France. Thereby the results of the previous paper are substantiated and emphasized to the effect that Germany, contrary to the thesis of French policy in the matter of disarmament, has not only a much smaller potentiel de guerre but none at all, considering the present disproportion between the tremendous military power of France and her allies, on the one hand, and the really pitiful forces and means of defence left to Germany by the Treaty of Versailles, on the other hand. At the same time, the paper demonstrates once more the essential falsity of the French thesis of security and Germany's justification in insisting that the crass inequality of armaments between the two countries be abolished and that the obligation of disarming as stipulated in the Treaty of Versailles be fulfilled by France and her allies.

We trust that the evidence given is convincing: **Germany, absolutely disarmed and defenceless, surrounded by numerous neighbours who are armed to their teeth; Germany, deprived of important arms of attack and defence in consequence of the prohibition of heavy artillery, tanks, air forces and submarines; Germany's security seriously threatened,** since all of her borders and coasts are helplessly exposed to the attacks of hostile neighbours.

The well-known memorandum of the French Government to the League of Nations, July 15th, 1931, states as the principle for disarmament the demand that in a system of international security every country must keep up such armament as is indispensable for warding off an attack, until the „common procedure“ goes into effect. Left to its own resources alone, a country when attacked unjustly, must be sufficiently armed so as not to be destroyed, before it can mobilize all of its national man-power. This principle is absolutely

correct. But the present ratio of military power between Germany, on the one hand, and France and her allies, on the other, does in no way correspond to it. The onesided disarming of Germany contradicts, too, the spirit of the League Covenant whose principal basis is the equality of all members of the League. It especially contradicts article 10 of the Covenant according to which all members of the League are guaranteed the „inviolability of their territories and of their political independence“. In consequence of the really gigantic military superiority of France and her allies, Germany is not able to protect either. She cannot resist an enemy attack long enough to bring an effect of the „common procedure“ to bear. She is threatened with annihilation.

Germany, then, does not possess, in any sense, the degree of security which the French Memorandum of July 15th, 1931, assumed to be the condition for any reduction of armaments. Germany has no security whatever. Worse than that, — to quote the words of the French General Le Cugnac, in „France Militaire“ of November 20, 1930, — being a disarmed country, Germany at present is a temptation for the other countries. This is one of the conclusions of our study. But the other conclusion is no less clear:

France and her allies must disarm. No longer must the demand of the League Covenant for equality among its members be merely a printed paragraph and a hollow phrase. Equality must become a fact so that a condition of discrimination and insecurity be ended, such as no people and no country can endure for ever. That which is permitted to France and her allies, must be permitted to Germany too; that which is forbidden to Germany, must be forbidden to the other nations too.
